

6. On Australian and New Zealand Spiders of the Suborder Mygalomorphæ¹. By H. R. HOGG, M.A., F.Z.S.

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(Text-figures 21-41.)

The suborder now dealt with is synonymous with M. Eugène Simon's family Aviculariidae². Mr. R. I. Pocock, in arranging the Indian genera of the same³, raised the family to a suborder, and its subfamilies to families, which, as remnants of an older era, is without doubt their proper position relatively to most of the other families of the Araneæ.

I will, however, in the present paper, for the sake of convenience of reference, retain M. Simon's nomenclature.

Owing to the imperfect state and small number of any fossil remains, the line of descent of our various families of Arachnida has as yet been by no means clearly established.

With the single exception of the genus *Liphistius* Schiödte, a curious remnant in South-eastern Asia, the Mygalomorphæ are believed to contain the oldest forms of all known Spiders.

The representatives of the suborder in Australasia are especially interesting from the fact that, being of a simple form, they are probably indicative, like much of the rest of the fauna of the continent, of early types.

Of the seven subfamilies into which M. Simon divides the Aviculariidae of the world, six are represented, the absentee Paratropidinae comprising two species only, from the Upper Amazon in S. America and the Island of St. Vincent respectively.

Those we have to deal with may be roughly distinguished as follows:—

A. No projecting claw-tufts. Three tarsal claws.

a. A rastellum, or digging apparatus, consisting of hard teeth on the frontal portion of the upper mandibular joint⁴ (falx).

α. The cephalic part of the cephalothorax rising abruptly from the thoracic part and very highly arched. The eyes spread out across nearly the whole frontal region. The mandibles projecting horizontally from the front of and as large as the whole cephalic region

ACTINOPODINÆ.

¹ I have not included Tasmanian species because, many as are the gaps to be filled in our knowledge of what I am now describing, we know still less of the Tasmanian region, and I am unhappily not in a position to supplement that knowledge. As we find to be the case in other orders, Tasmania will no doubt contain some forms which have disappeared on the mainland. Its northern and western ranges have been scarcely investigated at all.

² Histoire Naturelle des Araignées, 1892, vol. i. p. 65.

³ Fauna of British India—Arachnida, 1900, p. 157.

⁴ These teeth, though of somewhat the same nature, must not be confounded with those on the margin of the falx-sheath underneath, used for preventing the escape of prey.

- β. The cephalic part still arched, but not so highly. The eyes collected in a more or less compact group slightly raised in the centre of the cephalothorax. Mandibles less formidable CTENIZINÆ.
- b. No rastellum, or only slight hardened bristles on the lower front part of the falx.
- a. The mandibles normally long and reaching out in front horizontally DIPLURINÆ.
- β. The mandibles very short, convex and horizontal near the base only, thence inclined almost vertically. MIGINÆ.
- B. Tufts of bristles projecting beyond the anterior end of the tarsi; the 3rd, or lower, claw absent.
- a. A rastellum, though in some cases not strongly developed (*Idiommata*). The superior spinnerets short and stout, the 3rd joint almost hemispherical BARYCHELINÆ.
- b. No rastellum. The superior spinnerets long; the 2nd and 3rd joints being about the same length as the 1st. AVICULARINÆ.

Subfamily ACTINOPODINÆ.

This is represented by one genus only.

Genus ERIODON Latreille.

Eriodon Latreille, Dict. Nouv. d'Hist. Nat. appliquée aux Arts, tom. xxiv. 1804, p. 134.

Missulena C. A. Walckenaer, Tableaux des Araneides, 1805, p. 8.

Pachiloscelis H. Lucas, Ann. Soc. Ent. Fr. vol. iii. 1834 (ad part. *nigripes*, *rufipes*), pp. 362-4.

Sphodros Walck. Ins. Apt. vol. i. 1837, p. 246.

Eriodon H. Lucas, Ann. Soc. Ent. Fr. ser. 4, vol. v. 1865, p. 309, pl. 8. fig.

Closterochilus A. Ausserer, Verh. zool.-bot. Ges. Wien, vol. xxi. 1871, p. 141.

Theragretes Auss. *ibid.* p. 142.

Eriodon Latr., Auss. *ibid.* p. 142.

Eriodon L. Koch, Die Arachn. Austr. 1873, p. 454.

Eriodon E. Simon, Hist. Nat. d. Araign. vol. i. 1892, p. 81.

The specimen on which Latreille founded this genus was probably the first spider brought from Australia to Europe.

The genus has not so far been recorded outside the continent of Australia.

The males are generally smaller than the females, and often of much more brilliant colouring about the head and falces.

Eleven species have been described, in every case from either the male only or female only. The evidence connecting species of opposite sex either by locality or similarity of some feature is rather slight, but I think they can be reduced to eight at most.

Synopsis of Species.

1. Eyes all small and of about the same size. Bodies whole-coloured black-brown (in females at least) 2.
- Eyes of clearly very unequal size 3.

2. Eyes sessile, front middle very minute, at least 4 diameters apart *E. formidabile* Cambr. ♀.
Side eyes protuberant, front middle eyes about 1 diameter apart (*sec.* Lucas) *E. occatorium* Walck. ♀.
3. Cephalothorax and mandibles whole-coloured brown or black-brown in male as well as female 4.
Cephalic part or mandibles bright scarlet (in male at least) 5.
4. Front middle eyes upright, oval, larger than rear side. 2nd and 3rd pairs of legs of equal length *E. rugosum* Auss. ♂.
Front side eyes largest, middle eyes small and round. 3rd pair of legs longer than 2nd in female (*sec.* Cambr.) *E. crassum* Cambr. ♀.
Eyes as in preceding. Cephalic part of cephalothorax deeply pitted in male (*sec.* Cambr.) (? Same as above.) *E. granulosum* Cambr. ♂.
5. Cephalic part dark reddish black. No spines on lip or maxillæ *E. incertum* Cambr. ♂.
Cephalic part bright scarlet 6.
6. Spines on lip and maxillæ. 4th pair of legs longest *E. insigne* Cambr. ♂.
No spines on lip or maxillæ 1st pair of legs longest 7.
7. Front middle eyes upright, oval, black centre on pale yellow iris, or (*sec.* Rainbow) brown. Stigma of palp in male about twice the length of bulb [♂, ?♀].
Stigma of palp "very long" (*sec.* Simon). *E. rubrocapitatum* Auss.
(? Same as above)..... *E. semicoccineum* Simon.
- Thoracic part of cephalothorax black, cephalic part bluish black. Abdomen yellow above, or yellow hairs only, black beneath. Characteristics doubtful (*sec.* Simon) . . ? Same. Male *E. nigripes* Lucas.
and Female *E. rufipes* Lucas.

ERIODON OCCATORIUM Walck.

Missulena occatoria C. A. Walckenaer, Tableau des Araneides, p. 8, pl. 2. figs. 11-14 (1805); id. Ins. Apt. 1837, vol. i. p. 252.

Eriodon occatorium Walck., Lucas, Ann. Soc. Ent. Fr. sér. 4, vol. v. 1865, p. 309, pl. 8.

Eriodon occatorium Walck., L. Koch, Die Arachn. Austr. 1873, p. 457.

The original specimen, female, from which Walckenaer described this type-species (*sec.* Lucas), was the same as that from which Latreille formed the genus, the previous year, having been brought from New Holland by M. F. Péron¹, naturalist to Capt. Baudin's expedition with the French ships 'La Géographe' and 'La Naturaliste,' in 1802. They passed several months refitting in Port Jackson, so probably the spider was from New South Wales.

In colour it was brown all over.

Walckenaer gives two drawings of the eyes, in one of which the front middle pair are quite small, about three diameters apart;

¹ Voyage de découvertes aux Terres Australes, redigé par M. F. Péron. Paris, 1807.

in the other, somewhat larger, one and a half diameters apart. In the former also the rear side-eyes are nearer together than the front side, and in the other drawing both distances are the same. The first is from above, the second from in front. M. H. Lucas in a long paper on the genus (*loc. cit.*), in 1865, says that the front middle eyes are close together; he gives a drawing in which they are small and about a diameter apart. His specimen was purchased by the Paris Museum in 1859, and came from 'les environs de Melbourne'; he was able to compare it with the original type-specimen, then 60 years old; still his identification should be correct. It was 20 mm. long—whether including mandibles or not does not appear. It is to be hoped some fresh specimens may be forthcoming from Melbourne or Sydney.

In the British Museum are two specimens from Hunter River, N.S.W., and Western Australia labelled *E. occatorium*, females also, old dried specimens; but they are different from one another, and do not agree with M. Lucas's description.

In these the rear row of eyes is shorter than the front. The two front middle are small, about three diameters apart, but stand on larger round, slightly raised bases, which may or may not have been originally part of the eyes, but in the dried state are now clearly separable from the seeing part. This probably accounts for the discrepancies above mentioned. The side-eyes are all slightly raised.

The colour is a uniform rich dark brown, the mandibles black-brown, and the cephalothorax smooth and shiny.

In the largest there are 11 teeth on the inner margin of the falx-sheath, 9 on the outer, and about 13 smaller in two intermediate rows.

On the superior tarsal claws are 2 or 3 rather long pectinations about the middle of the shaft and 1 on the inferior. There are numerous spines on lip and base of maxillæ.

The measurements of the largest of the above in millimetres are as follows:—

		Long.	Broad.		
Cephalothorax ..		9	9½		
Abdomen		6	6		
Mandibles		7	5		
		Trochanter	Patella	Metatarsus	
	Coxa.	& femur.	& tibia.	& tarsus.	
Legs ..	1. 4	7	6	5½	= 22½
	2. 4	7	6	5	= 22
	3. 4	7	5½	5½	= 22
	4. 4	8	7½	6	= 25½
Palpi	3	6	5	3	= 17

In this specimen the teeth on the falx-sheath are numerous, pectinations on tarsal claws few, posterior legs relatively longer, and spines on lip and maxillæ numerous.

These two are more likely the female (unknown) of *E. rubrocapitatum* Auss. and of *E. crassum* Cambr. respectively.

ERIODON FORMIDABILE Cambr.

Eriodon formidabile Rev. O. P. Cambridge, Journ. Linn. Soc., Zool. vol. x. 1868, p. 266; L. Koch, Die Arachn. Austr. 1873, p. 454.

This was described by Mr. Cambridge from an old dried specimen in the Hope Museum at Oxford, which had lost its palpi and hind legs. He gives its length as $12\frac{1}{2}$ lines (or 26 mm.).

There is a mutilated specimen in the National Museum of Victoria, Melbourne, which I attribute to the same.

It is very similar to *E. occatorium* both in colouring (dark chocolate) and eyes. The front middle pair are very minute, about four diameters apart. The eyes, which are all small, seem more sessile, the front and rear rows about equal in length, and the middle eyes of rear row nearer to the side-eyes of same than to the front middle. Front row in a straight line. The whole creature is larger than the foregoing, and the species are probably distinct.

Mr. Cambridge says his specimen had six spinnerets, which, if correct, would make it differ from the rest of the genus. But old dry specimens are very difficult to handle and apt to be deceptive. In the female I examined the rear half of the abdomen was destroyed.

Locality. Swan Hill (River Murray), Victoria.

ERIODON CRASSUM Cambr.

Eriodon crassum Rev. O. P. Cambridge, Journ. Linn. Soc., Zool. vol. x. 1868, p. 269; L. Koch, Die Arachn. Austr. 1873, p. 456.

This again is very like *E. occatorium* (sec. Cambr.), but smaller, $7\frac{1}{2}$ lines. The front side-eyes twice the diameter of front middle. Legs 4, 3, 2, 1. Female from Swan River, W. Austr. (Hope Mus., Oxford).

The specimen in Brit. Mus. labelled as *E. occatorium*?, mentioned above, has the 1st, 2nd, and 3rd pairs of legs all about equal length, but, coming from the same locality and in other respects agreeing with the description of this species, I think it must be taken to be the same.

ERIODON GRANULOSUM Cambr.

Eriodon granulosum Rev. O. P. Cambridge, Journ. Linn. Soc., Zool. vol. x. 1868, p. 268; L. Koch, Die Arachn. Austr. 1873, p. 455.

Male. Length 7 lines. Swan River, W. Austr. (Hope Mus., Oxford), sec. Cambridge.

Cephalothorax black above and below, as also legs and palpi. Eyes, as drawn, very similar to those of *E. crassum*. Falces as long as cephalothorax, strong black spines at upper extremity. Legs long, 4, 3, 2, 1, with black hairs; black spines on underside of metatarsi and tibiæ. Margin of cephalothorax and caput rough and granulose (a common feature in males of this genus). Male palp with a double bulb and stigma of about the same length.

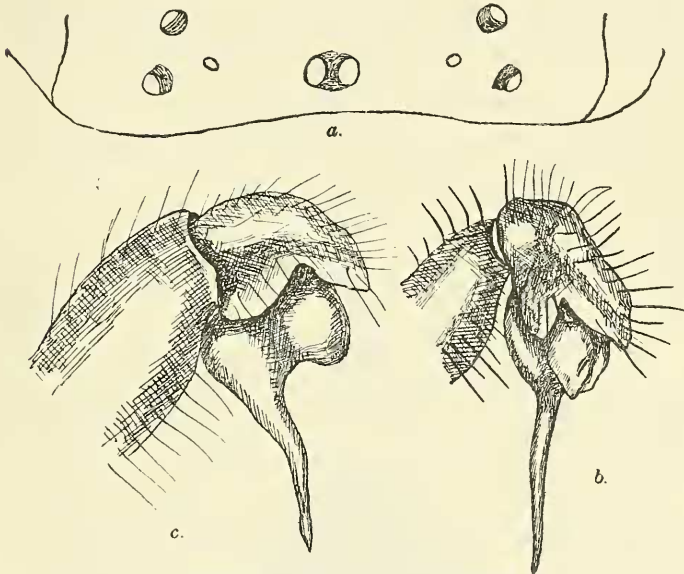
This reads very much like the male of the preceding.

ERIODON INSIGNE Cambr. (Text-fig. 21, figs. *a*, *b*.)

Eriodon insigne Rev. O. P. Cambridge, Ann. Mag. Nat. Hist. ser. 4, vol. xix. 1877, p. 29.

Cephalic part of cephalothorax and mandibles bright scarlet; thoracic part black. Abdomen black. Thoracic fovea deep and strongly procurved. Front middle eyes largest, oval, upright, close together. Rear middle eyes nearer to rear side than to front middle. Scopula on tarsus and two-thirds of metatarsus of 3rd and 4th pairs of legs. Superior claws lightly pectinated, 5 or 6 on inner, 3 on outer; 2 on inferior. 8 teeth on inner falx-edge,

Text-fig. 21.



Eriodon rugosum. *c*. Male palp.
E. insigne. *a*. Eyes. *b*. Male palp.

4 on lower part of outer, and 5 very small intermediate at lower end. Club-shaped spines on lip and lower inner edge of maxillæ. A rather large protuberance on the inner fore corner of maxilla. Trochantal joint of maxillæ long and cylindrical. Posterior sternal sigillæ large and removed from margin. Forehead slightly granulated, not so much as *E. incertum*.

I have several of these males from Dimboola, Victoria, but no females that I can attribute as conspecific with them.

The males of *E. insigne* Cambr., *E. incertum* Cambr., *E. rubrocapitatum* Auss., and apparently *E. semicoccineum* Simon, are all very much alike, with their black thoracic part, abdomen, and legs, and scarlet head and mandibles. No scarlet-coloured females have been found; probably they are of the normal black-brown or chocolate colour, and may not differ even so much as the males.

Of the four species known to me I have figured the palps, the bulb and stigma of which will be seen to be of a somewhat similar type, the latter nearly straight, from once and a half to twice the length of the bulb.

Measurements in millimetres.

		Long.	Broad.				
Cephalothorax	....	4½	5				
Abdomen	.....	4	3½				
		Coxa.	Tr. & fem.	Pat. & tib.	Metat. & tars.		
Legs	..... 1.	2½	6	4½	4½	=	17½
	..... 2.	2¼	5	4	4	=	15¼
	..... 3.	2½	5	4	4½	=	16
	Or 4, 1, 3, 2. 4.	2½	6	4½	5	=	18
Palpi	.....	1¾	2 & 4	5	1	=	13¾

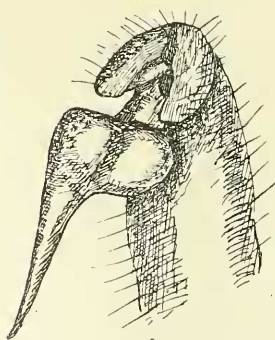
ERIODON INCERTUM Cambr. (Text-fig. 22.)

Eriodon incertum Rev. O. P. Cambridge, Ann. Mag. Nat. Hist. ser. 4, vol. xix. 1877, p. 30.

Text-fig. 22.



a.



b.

Eriodon incertum. a. Eyes. b. Male palp.

Described from a male from Swan River.

Cephalic part of cephalothorax dark reddish black; mandibles bright scarlet; thoracic part black. Abdomen black-brown.

Thoracic fovea very deep and procurved. 8 teeth on inner falx-edge; 5 teeth on outer falx-edge, and bunch of about 7 small

intermediate at lower end, away from fang. There are no spines on lip or maxillæ.

Eyes: the front middle are the largest, oval, inclined to one another, bases half their short diameter apart. Side-eyes about equal in size, in length equal the short diameter of front middle eyes. The cephalic part above the eyes is deeply pitted with numerous coarse indentations.

The rastellum is on a pad on the inner side of the falx. The sternal sigillæ are large, away from margin, and the same as in *E. insigne* and *E. rubrocapitatum*.

A thick low undivided scopula on tarsus and metatarsus iii. and iv. reaches nearly to the base of the latter. There are 5 pectinations on superior inner tarsal claw, 3 on outer, and 3 short on inferior.

These particulars are from a male from Perth (H. W. J. Turner) in the British Museum.

Measurements in millimetres.

	Long.	Broad.					
Cephalothorax	5	6					
Abdomen ..	5½	5		Pat. &	Metat.		
		Coxa.	Tr. & fem.	tib.	& tars.		
Legs	1.	2½	5¾	5	4½	=	17¾
	2.	2½	5	4½	4	=	16
	3.	2½	5	4	4	=	15½
Or 1, 4, 2, 3.	4.	2½	5	4½	4½	=	16½
Palpi		1¾	2 & 4	5¾	1	=	14½

ERIDON RUGOSUM AUSS. (Text-fig. 21 c, p. 223.)

Eridon rugosum AUSS., Verh. der k.k. zool.-bot. Ges. Wien, Band xxv. 1875, p. 141, Taf. v. figs. 5 & 6. A male from Australia.

One male, Keyserling Coll., British Museum. Total length 14 mm.

The front side-eyes are largest and oval. The front middle are likewise oval, long diameter vertical, slightly smaller; their short diameter apart.

The whole cephalothorax and mandibles are deep black, the legs and palpi inclining to reddish brown—the colour of *E. occatorium*, from which however the eyes differ entirely. The abdomen considerably overhangs the cephalothorax.

Measurements in millimetres.

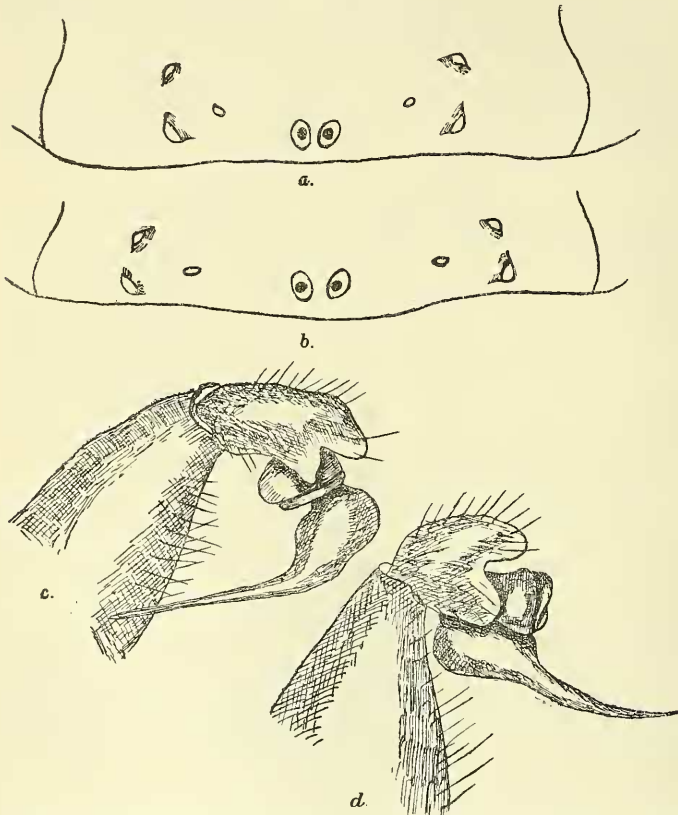
		Long.	Broad.				
Ceph. (without mandibles) ..		7	7				
Abdomen		6½	5				
Mandibles		4					
			Coxa.	Tr. & fem.	Pat. &	Metat.	
Legs	1.	2½	5½	4½	4½	=	17
	2.	2½	5	4	4	=	15½
	3.	2½	5	4	4	=	15½
Or 4, 1, 2, 3.	4.	2½	6	5	5	=	18½
Palpi		2½	5	5	1½	=	14

ERIODON RUBROCAPITATUM Auss. (Text-fig. 23.)

From the specimen in Keyserling Coll., Brit. Mus., I take the following particulars.

Cephalic part of cephalothorax and mandibles rather brownish red; thoracic part black. Legs and palpi lighter brown than

Text-fig. 23.



Eriodon rubrocapitatum. a. Eyes of male. b. Eyes of female (labelled *E. occatorium*), probably female of this. c, d. Left and right male palps.

latter (not so bright as *E. insigne*), but the specimen is old and may have lost its colour somewhat. Thoracic fovea deep and procurved. Sternal sigillæ removed from margin; posterior pair very large; anterior pair small and on sternum below lip-fold. Scopula on tarsus and lower two-thirds of metatarsus iii and iv. 3 large and 5 small teeth on inner edge of falx-sheath, 2 large and

2 small near lower part of outer edge; intermediate row of 4 very small at lower end of same. About 5 or 6 pectinations on outer superior tarsal claws, 3 on inferior; 4 or 6 pectinations on inner superior tarsal claws. No club-shaped spines on lip or maxillæ. Female below has spines on both. The front middle eyes are small, on pale yellow prominences (Mr. Rainbow says brown). The tibial joint of palp is unusually long and swollen in the middle. The trochantal joint of same is also unusually long (as in *E. insigne* and *E. incertum*).

Mr. Rainbow, of Sydney, describes a male from Menindie, N.S.W., which is the same as this one labelled Australia only.

Measurements in millimetres.

		Long.	Broad.				
Cephalothorax ..		5	6				
Abdomen		4	4				
				Pat. &	Metat.		
				tib.	& tars.		
Legs	1.	2	6	5½	5	=	18½
	2.	2	5½	5	5	=	17½
	3.	2	4½	4	4	=	14½
	4.	2	5½	5	5	=	17½
Palpi		1½	2 & 4½	7	1	=	16

A female in British Museum, with eyes the same, dark centre on pale yellowish brown, measures:—

		Long.	Broad.				
Cephalothorax ..		7½	9				
Abdomen		11	10				
Mandibles		5	4 each.				
				Pat. &	Metat.		
				tib.	& tars.		
Legs	1.	3	7	5½	4½	=	20
	2.	3	6	5½	4½	=	19
	3.	3	7	5½	5	=	20½
	4.	3½	8	6½	5½	=	23½
Palpi		3	5¼	5	3	=	16¼

ERIODON NIGRIPES Lucas (*sec.* Simon).

Pachyloscelis nigripes Lucas, Ann. Soc. Ent. Fr. vol. iii. 1834, p. 364, pl. vii. figs. 1 & 2.

Sphodros abboti Walck. Ins. Apt. vol. i. 1837, p. 243.

Eriodon nigripes E. Simon, Hist. Nat. d. Araign. vol. i. 1892, p. 81 note.

Described as from Brazil. M. Simon, however, thinks that this is

probably a mistake, as on examination of Lucas's type of the above-named species, he finds it to be a male *Eriodon*.

He further ascertained that *Sphodros abbotti* Walck. (*loc. cit.*) was described from the same specimen.

The cephalothorax is described as black, the cephalic part blue-black, the abdomen yellow above and black underneath.

M. Lucas at the same time described a female as *P. rufipes* (*loc. cit.*), which from the colouring (black all over, bluish head-part, yellow hairs on abdomen) would appear to be the female of the above.

The rear middle eyes are depicted in this female as close up to the rear side, while in the male they are about half-way, which may doubtless have led M. Simon to reject it as conspecific; the drawings given of details of other parts, however, are clearly not to be taken too literally. Of course there is the doubt as to its locality, and it has not been recognized since.

ERIODON SEMICOCINEUM Simon.

Eriodon semicoccineum Simon, Liste der Arachn. der Semon'schen Sammlung in Australien und dem Malayischen Archipel (E. Simon, 1896).

Black, with cephalic part and mandibles red; 9 mm. long. From Burnett River, Queensland.

From M. Simon's description (*loc. cit.*) it is not clear that this differs from *E. rubrocapitatum* Auss., unless the "very long, straight, thin" palpal stigma mentioned means something more than about twice the length of the bulb.

Subfamily MIGINÆ.

This subfamily is represented only by the genus *Migas* L. Koch, which is confined to New Zealand. Unlike the other members of the family, the mandibles are short, convex, kneed at the base and thence almost vertical. The thoracic fovea is recurved, and the front row of eyes (*sec.* Koch) straight or (*sec.* Goyen) procurved. The New Zealand species are unknown to me. I recorded a mutilated specimen from Central Australia (Horn Expedition, Zool. vol. ii. p. 334) as probably *M. paradoxus* L. K.; but on reconsidering my notes I feel sure that it must be a new genus—to be described when more material is available.

Genus MIGAS L. Koch.

Migas L. Koch, Die Arachn. Austr. 1873, p. 467; E. Simon, Hist. Nat. d. Araign. vol. i. 1892, p. 84.

Type, *M. paradoxus* L. Koch.

MIGAS PARADOXUS L. Koch (*loc. cit.*).

Front row of eyes straight; a remarkable double row of spines on metatarsus iv.

Female from Auckland.

MIGAS DISTINCTUS Cambr.

(Female.) Rev. O. P. Cambridge, Proc. Zool. Soc. Lond. 1879, p. 783.

(Male.) P. Goyen, Proc. New Zealand Inst. vol. xix. 1886, p. 210.

(*Sec. Goyen.*) Both rows of eyes procurved. No spines on lip or maxillæ. Length 9 mm.

Locality. At the back of the sea-beach between Dunedin and Oamaru, Otago.

MIGAS SANDAGERI Goyen.

Migas sandageri Goyen, Proc. N. Z. Inst. vol. xxiii. 1890, p. 123.

(*Sec. Goyen.*) Both rows of eyes procurved. Lip and maxillæ studded with spines. Length 9 mm.

Weaves a nest on trunks of trees.

Locality. Mokohinou Islands.

Subfamily CTENIZINÆ.

Three claws and a rastellum. Eyes on a more or less raised prominence in the centre of the frontal area.

Of the six groups into which M. Simon divides this subfamily we have only three into which any of our genera can fall. *Idiopex*—in which the front side-eyes are brought so far forward as to be separated from the others; *Cyrtucheniceæ* and *Nemesiceæ*, which M. Simon separates on the procurvedness or straightness of the thoracic fovea, and these so overlap the borders that no satisfactory dividing line between the groups can be drawn.

Synopsis of Genera.

- | | |
|---|--------------------------|
| 1. Rear middle eyes at least two of their longer diameters distant from the rear side-eyes | 2. |
| Rear middle eyes not more than their longer diameter from the rear side-eyes | 3. |
| 2. Abdomen coriaceous, wrinkled, short spines on back. Anterior lateral eyes brought forward to margin of clypeus (as in <i>Idiops</i>) and not more than their diameter apart | <i>Idiosoma</i> Auss. |
| Abdomen clothed with rather thick and long hair ... | 4. |
| 4. Rear row of eyes procurved; long spines on the upper side of the abdomen | <i>Anidiops</i> Pocock. |
| Rear row of eyes recurved | 5. |
| 5. Cephalothorax only very slightly longer than broad | <i>Eucyrtops</i> Pocock. |
| Cephalothorax one third longer than broad | <i>Aganippe</i> Cambr. |

3. Lip broader than long. Thoracic fovea deep and strongly procurved. Posterior sternal sigilla large and removed from margin. Long thin spines on upper and under side of abdomen ... *Maoriana*, nov. gen.
 Lip nearly square. Thoracic fovea straight or only slightly divergent therefrom. Sternal sigilla moderate in size and marginal *Arbanitis* L. Koch.

Genus IDIOSOMA Ausserer.

Idiosoma Ausserer, Verh. z.-b. Ges. Wien, 1871, p. 150.

Acanthodon Guérin, E. Simon, Hist. Nat. d. Araign. vol. i. 1892, p. 91.

Idiosoma Auss., R. I. Pocock, Ann. & Mag. Nat. Hist. ser. 6, vol. xix. 1897, p. 109.

Attached by M. Simon to the genus *Acanthodon* and group *Idiopece*, to which the position of its front side-eyes entitles it. The rear side-eyes are, however, at least twice the diameter of the front middle instead of nearly equal, and the lip broader than long, instead of equally so. No spines on lip, instead of a row of a few large ones. I think, therefore, that Mr. Pocock is right in restoring Ausserer's genus.

Type, *I. sigillatum*.

IDIOSOMA SIGILLATUM Cambr.

Idiosoma sigillatum Cambr., R. I. Pocock, *loc. cit.*

Idiops sigillatus Cambr. Proc. Zool. Soc. 1870, p. 105, pl. viii. fig. 2.

This, the only species of the genus, was described originally from a male from Perth, W.A. However, a female was received by the British Museum from the same neighbourhood a few years since, from which I have taken the following few points in addition to those published by Mr. Pocock.

Teeth on inner falx-edge 7
 „ outer „ 4
 3 smaller intermediate at lower end.

Measurements in millimetres.

	Long.	Broad.				
Cephalothorax ..	8	6				
Abdomen	11	9				
Mandibles	4					
			Coxa.	Tr. & fem.	Pat. & tib.	Metat. & tars.
Legs	1.	3	3	6	5½	4 = 18½
	2.	3	5½	5	4 = 17½	
	3.	3	5	4½	4 = 16½	
Or 4, 1, 2, 3.	4.	3	6	7	5½ = 21½	
Palpi	3¾	5	5	3½	= 17¾	

Genus *AGANIPPE* Cambr.

Aganippe Cambr. Ann. & Mag. Nat. Hist. ser. 4, vol. xix. 1877, p. 28; Simon, Hist. Nat. d. Araign. vol. i. p. 106 (1892); Pocock, Ann. & Mag. Nat. Hist. ser. 6, vol. xvi. 1895, p. 223; id. *ibid.* vol. xix. 1897, p. 112.

Type, *AGANIPPE SUBTRISTIS* Cambr., *loc. cit.*

Described from a dried specimen in the British Museum received from Adelaide (S. Australia), and not recorded since.

The cephalothorax and legs are bright chestnut-brown; the eye-space and mandibles darker reddish brown; abdomen reddish brown, rough and hairy. The sternum is pyriform, broadest behind. The posterior sternal sigillæ large and removed from the margin; a smaller pair between these and the anterior margin of sternum. The sternum and coxæ are copiously pitted.

The lip is small, as long as broad. Club-shaped spines on base of maxillæ, none visible on lip.

In this the rastellum extends in three rows of teeth right across the lower end of falx.

Measurements in millimetres.

		Long.	Broad.				
Cephalothorax ..		12	9				
Abdomen		11	9½				
Mandibles		8 falx.					
		5 fang.					
		Coxa.	Tr. & fem.	Tib. & pat.	Metat. & tars.		
Legs	1.	5	9½	8½	5½	=	28½
	2.	4	8	8	5½	=	25½
	3.	4	7½	7	6	=	24½
Or 4, 1, 2, 3.	4.	5	10	9½	8½	=	33
Palpi		5½	6½	6½	4½	=	23

Genus *ANIDIOPS* Pocock.

Anidiops Pocock, Ann. & Mag. Nat. Hist. ser. 6, vol. xix. 1897, p. 114.

Type, *ANIDIOPS MANSTRIDGEI* Pocock, *loc. cit.*

Described from a dried female specimen from Lawlers, East Murchison, W.A., and not since recorded.

The front middle eyes are yellow with black centres, their diameter apart. The rear side-eyes are largest, two thirds diameter of front middle. The rear row strongly procurved. The front side-eyes project beyond the margin of the carapace, and are their diameter apart, one third more than front middle.

Rastellum along inner front of falx and over rather large area behind same.

Measurements in millimetres.

	Long.	Broad.				
Cephalothorax ..	9	7				
Abdomen	8	6½				
Mandibles	6					
			Pat. &	Metat.		
			tib.	& tars.		
Legs	1.	Coxa. Tr. & fem.	6½	5½	=	22½
	2.	4 3½	6	4½	=	20
	3.	3	6	5	=	19
	4.	3½	7½	7½	=	26
Palpi	5	6½	6½	4	=	22

Genus EUCYRTOPS Pocock.

Aganippe Cambr. (*ad partem, latior*), Ann. & Mag. Nat. Hist. ser. 4, vol. xix. 1877, p. 29, pl. vi. fig. 4.

Eucyrtops Pocock, Ann. & Mag. Nat. Hist. ser. 6, vol. xix. 1897, p. 113.

EUCYRTOPS LATIOR Cambr., *loc. cit.*

Removed by Mr. Pocock from *Aganippe* in consequence of a difference, which he considers sufficient, in the arrangement of the eyes in the type, and only, species from that of *Aganippe subtristis* Cambr.

There does not appear to me much difference beyond that the rear row is rather more recurved, and the front middle eyes equal in size to the rear middle, instead of larger. The four side-eyes are also equal, 1½ diameter of the medians, and they are all slightly raised on low tubercles. However, in *Eucyrtops* the cephalothorax is broader, apparently the reason of its specific name.

Type (in British Museum), one dried female from Perth, W. A. Not recorded since.

Measurements in millimetres.

	Long.	Broad.				
Cephalothorax ..	9½	9				
Abdomen	7	5½				
Mandibles	5					
			Pat. &	Metat.		
			tib.	& tars.		
Legs	1.	Coxa. Tr. & fem.	6	5½	=	21
	2.	4 3½	6	5½	=	20½
	3.	3½	5	5½	=	19
	4.	4	7½	6	=	24½
Or 4, 1, 2, 3.						
Palpi	4½	5½	5½	4½	=	20

Genus ARBANITIS L. Koch.

Pholeuon L. Koch (*nom. praeocc.*), Arachn. Austr. 1873, p. 472.

Arbanitis L. Koch, Arachn. Austr. 1874, p. 491.

Arbanitis E. Simon, Hist. Nat. d. Araign. vol. i. p. 115 (1892).

Arbanitis differs primarily from *Nemesia* (*sec.* Simon) in having the pectinations on the tarsal claws in one row instead of two. Judged by this standard, all the species from Australia and New Zealand described under the two genera must be included in the former.

M. Simon has already removed *N. gilliesii*; and as Mr. Urquhart's description of his *N. kirkii* is apparently clear on the point, though he does not state it directly, that must also follow suit.

Type, *A. longipes* L. Koch.

Synopsis of Species.

- | | |
|--|-----------------------------|
| 1. Middle eyes of front row about $\frac{1}{2}$ diameter apart
(<i>sec.</i> L. Koch)..... | <i>A. longipes</i> L. Koch. |
| Middle eyes of front row more nearly $1\frac{1}{2}$ diameter
apart | 2. |
| 2. Cephalothorax of adult (σ or ρ) not exceeding
about 6 mm. in length (<i>sec.</i> Cambr. & Goyen). | <i>A. huttonii</i> Cambr. |
| Cephalothorax of adult (σ or ρ) 8-14 mm. in
length | 3. |
| 3. No club-shaped spines on lip..... | <i>A. gilliesii</i> Cambr. |
| Lip covered with small papillæ, or club-shaped
spines (<i>sec.</i> Urq.)...if coming within subfamily... | <i>A. kirkii</i> Urq. |

ARBANITIS GILLIESII Cambr. (Text-fig. 24, *a, b.*)

Arbanitis gilliesii Cambr., Simon, Hist. Nat. d. Araign. vol. i. p. 115 (1892).

Nemesia gilliesii Cambr. Trans. N. Z. Inst. vol. x. (1877) p. 284, plate x.

Nemesia gilliesii Cambr., A. T. Urquhart, Trans. N. Z. Inst. vol. xxiv. (1891) p. 221.

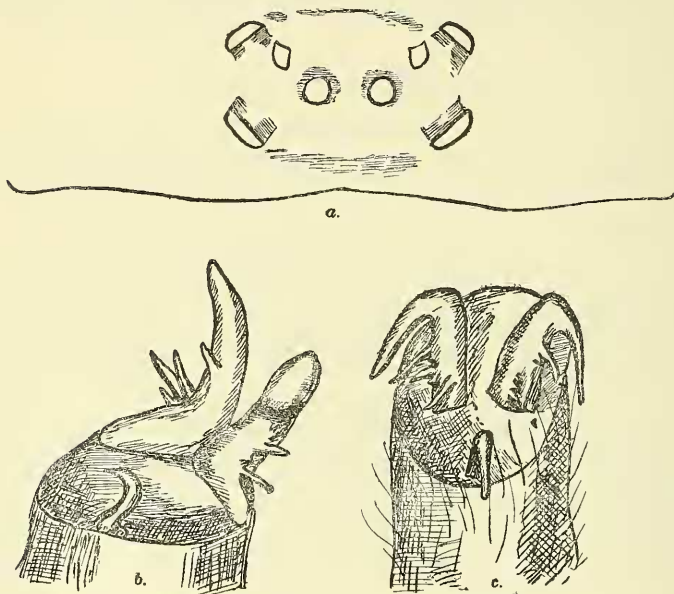
A female sent me by Prof. Dendy from Christchurch, N.Z., I attribute to this species, the colouring and pattern agreeing. Mr. Cambridge described his species from one male and two females sent by Captain Hutton from Oamaru, Otago.

The thoracic fovea is straight, or slightly recurved. Mr. Cambridge draws his procurved, but does not mention the point. The scopulæ on tarsus and metatarsus of two front pairs of legs are thick and undivided. With three long single spines in the scopulæ of the metatarsus; none on tarsus. On the two posterior pairs there are a good many short spines on the underside of the tarsus, and a row on the anterior end of metatarsus. There are very long bristles on the anterior end and sides of the sternum; bristles, but no club-shaped spines, on the lip, which is as broad as long, square in front, and sunk below the maxillæ. There

is a bunch of club-shaped spines on inner side of base of the latter.

The front middle eyes are $1\frac{1}{2}$ diameter apart, they are wholly above the highest point of the side-eyes, which are twice their diameter, and the same distance away from both front middle and rear side-eyes. The rear row is recurved, the side-eyes being $1\frac{1}{2}$ diameter of front middle. The whole eye-space is twice as long as broad, the sides being parallel, and the front side-eyes are their long diameter removed from the margin of the clypeus.

Text-fig. 24.



Arbanitis gilliesii. a. Eyes. b. Rear tarsal claws.
Supposed *A. huttoni*. c. Rear tarsal claws.

The outer superior tarsal claw has two very long pectinations between two shorter, and the inner claw two long and one short intermediate; none on the inferior claw; one large at base of palpal claw: this is on front edge of the tarsus-end, and not, as Mr. Cambridge draws it, close up to the other claws.

The inferior mammillæ are one diameter apart. The superior have the first joint longest and stoutest, the second one fourth its length, the third conical, rounded at the end, the same length as the second.

There are fine spines on both upper and under side of the abdomen.

Measurements in millimetres.

	Long.	Broad.				
Cephalothorax ..	14	11				
Abdomen	15	10				
Mandibles	3½					
	Coxa.	Tr. & fem.	Tib. & pat.	Metat. & tars.		
Legs	1. 6	11	10½	8½	=	36
	2. 5½	10	9½	8	=	33
	3. 5	8½	8	7½	=	29
	4. 5½	11½	13	11½	=	41½
Palpi	6	8	7	5	=	26

One female in British Museum from J. V. Jennings, Otago, 1891, differs slightly in the following particulars.

Eyes the same as the foregoing (supposed *A. gilliesii*), but distance between the front side pair and the margin of the clypeus rather narrower. Thoracic fovea deeper and slightly procurved. The Rev. O. P. Cambridge draws his recurved, but does not mention it in his description. No spines on the back of the abdomen, and only a few light bristly ones in two of the folds on the underside. Anterior abdominal (genital) fold double—the same in both species. Sternal sigillæ about the same size and marginal. The two rear coxæ not quite contiguous. Spinnerets about the same as foregoing.

Three small spines at front end of tarsus i. & ii. One larger pair at anterior end of metatarsus i. & ii., and two single in the middle and at the posterior end. A single row of large teeth (about eight) on inner falc-edge. The inner superior claw of tarsus iv. has about the middle one very long pectination, with another a good deal shorter nearer to the base, and a very small one between. On the outer claw is a long one near the base, followed by two short, and on the other side higher up one very long and one short—a sort of rudimentary double pectination. This might, however, almost equally well be a rudimental row crossing the claw, as in the *Diplurinae*. On the other claws the pectinations are all single.

Measurements in millimetres.

	Long.	Broad.				
Cephalothorax ..	11	8½				
Abdomen	13	8				
Mandibles	4					
	Coxa.	Tr. & fem.	Pat. & tib.	Metat. & tars.		
Legs	1. 5	9½	9	7½	=	31
	2. 4½	9	8	6½	=	28
	3. 4	8	7½	6½	=	26
	4. 4½	9½	11	10	=	35
Palpi	4¼	7½	7	5	=	24¼

ARBANITIS HUTTONII Cambr. (Text-fig. 24 c, p. 234.)

Arbanitis huttonii Rev. O. P. Cambridge, Proc. Zool. Soc. Lond. (24 Sept.) 1879, p. 682, plate lii. fig. 1 (male).

Arbanitis huttonii Cambr., A. T. Urquhart, Tr. N. Z. Inst. vol. xxiv. 1891, p. 221; P. Goyen, *ibid.* p. 255.

Described from an adult male sent by Captain Hutton from Dunedin in 1879; female by Mr. Goyen in 1891.

ARBANITIS KIRKII Urquhart.

Nemesia kirkii A. T. Urquhart, Trans. N. Z. Inst. vol. xxvi. 1893, p. 204.

One female from Wellington.

Mr. Urquhart says:—

Eyes. Posterior row moderately procurved, anterior row slightly recurved (unless this is a misprint it is of course quite different from anything else in the group).

The cephalic fovea is circular. (In the other species it is long.) The superior tarsal claws have 12 teeth, and the inferior 4. The palpal claw 7 stout open pectinations. In *A. huttonii* and *A. gilliesii* the superior claws have 4 pectinations, the inferior none, and the palpal claw one.

The position of the species must, therefore, be considered very doubtful.

ARBANITIS LONGIPES L. Koch.

Arbanitis longipes, L. Koch, Die Arachn. Austr. 1874, pp. 472 (*Pholeuon*), 491 (*Arbanitis*).

MAORIANA, nov. gen.

This genus, though near *Arbanitis*, differs from it in several essential particulars. The line joining the centres of the front row of eyes is only slightly procurved, the upper margin of the laterals being in a line with the centres of the median. The front lateral eyes are twice the diameter of the median, and are close to the margin of the clypeus, so that the clypeus is very much narrower. The line joining the centres of the rear row is about straight. The thoracic fovea is deep and procurved. The lip is broader than long and hollowed in the front margin. The posterior sternal sigillæ are large, lying half-way between the margin and the central line of sternum, and the others are away from the side-margin.

Maoriana agrees with *Arbanitis* in having thick scopula on the two front pairs of tarsi; none on the two rear pairs. Long thin spines on both upper and under side of abdomen. Superior tarsal claws pectinated in one row, but with not many in number. Row of teeth on inner side of falx-sheath only. Eye-space much broader than long; sides parallel. Eyes well apart. Superior

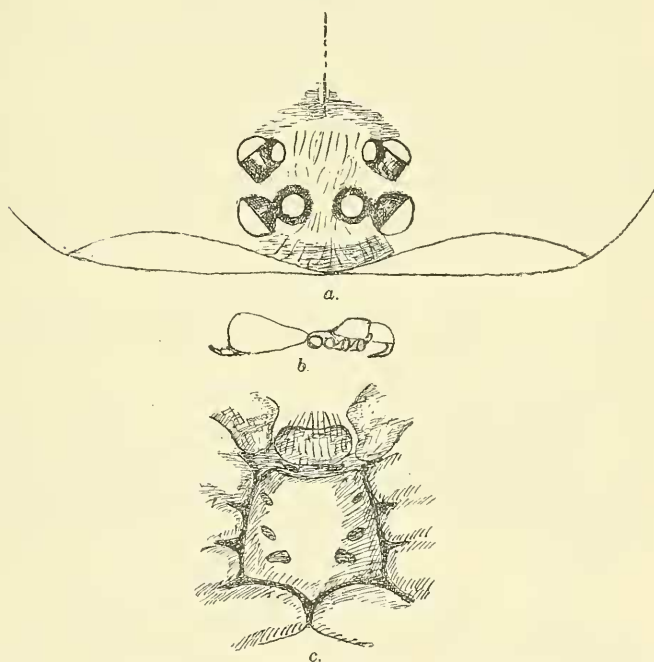
spinnerets short, stout and tapering; first joint longest, third quite short and hemispherical.

Type, *Maoriana dendyi*.

MAORIANA DENDYI, n. sp. (Text-fig. 25.)

Cephalothorax, mandibles, legs, and palpi bright yellow-brown, with a few pale yellowish hairs on the cephalothorax, trochanter, and femur, darkening into brown and thicker on the remainder of the leg. Two longitudinal belts of yellowish-brown bristles on the face of the falx are separated by bare spaces. The teeth of the rastellum are black. The sternum, coxæ, lip, and maxillæ are dull orange, furnished with brown bristles springing from round

Text-fig. 25.



Maoriana dendyi. a. Eyes. b. Profile (nat. size).
c. Lip and sternum, showing sigillæ.

roots; the fringes are pinkish yellow. The fangs dark red, almost black at base. The abdomen is black above with yellow spots in transverse bands; underneath black irregularly mottled with yellow. Spinnerets, gill-covers, and anterior section above genital aperture yellow-brown; a few long thin spines on both upper and under side of abdomen, and short yellow hairs.

The thoracic part of the cephalothorax is flat, rounded at sides and narrowed at rear; the cephalic part rises rather abruptly from

the deep and strongly-procurved fovea to about half its length, whence it slightly slopes downward to the anterior margin. The side striations are broad, shallow and straight, making the cephalic part almost triangular.

The front row of eyes is slightly procurved, the median pair $1\frac{1}{2}$ diameter apart on a common black oval prominence; the laterals are twice their diameter, the same distance away as the median from one another. The rear row is recurved. Side-eyes $1\frac{1}{2}$ diameter of front median, and that distance from the front laterals. The rear median are narrow pear-shaped, the length of the front middle, and just clearly separated at their apex from the side-eyes.

The sternum is broadest posteriorly, and very convex, hollowed in front opposite the lip, and slightly pointed between the rear coxæ, covered with long upstanding bristles on round roots. The posterior sigillæ are transversely oval, once and a half of their long diameter from the margin and the same distance from the central line.

The lip is broader than long, hollowed in front, and curved posteriorly with the sternum. It is very convex, and clothed with bristles on roots, but no small club-shaped spines.

The maxillæ are rather long, straight in front, a rounded protuberance at the heel and thence hollowed over the lip. A few club-shaped spines are sprinkled from the inner corner to half-way up.

Legs short and stout. Scopulæ on tarsi and metatarsi of front two pairs. A few short stout spines on all tarsi and metatarsi, and longer ones on underside of tibia.

The superior tarsal claws have one very long tooth near the base; the inferior claw is bare. One row of teeth only on falx-sheath. On the outside of patella iii. and iv. is an area covered with short stout spines very similar to those forming the rastellum.

The inferior spinnerets are one diameter apart. The superior are short, thick and tapering, the first joint longest and thickest, the third is hemispherical and only visible above the second from the underside.

Measurements in millimetres.

		Long.	Broad.				
Cephalothorax	.....	8	7				
Abdomen	.....	10	6				
Mandibles (horizontally)	..	3					
Superior spinnerets	.....	$2\frac{1}{2}$					
		Coxa.	Tr. & fem.	Pat. & tib.	Metat. & tars.		
Legs	.....	1. $3\frac{1}{2}$	6	5	4 =	$18\frac{1}{2}$	
		2. $3\frac{1}{2}$	$5\frac{1}{2}$	$4\frac{1}{2}$	4 =	$17\frac{1}{2}$	
		3. 3	5	4	4 =	16	
		4. $3\frac{1}{2}$	7	6	6 =	$22\frac{1}{2}$	
Palpi	.....	$3\frac{1}{2}$	$4\frac{1}{2}$	4	3 =	15	

One female from Christchurch, N.Z., sent me by Prof. Dendy.

Subfamily BARYCHELINÆ.

Group BARYCHELEÆ.

In this subfamily we find the tarsal scopulæ projecting in strong bristly tufts beyond the claws at the end of the foot, and from consequent disuse the third claw has disappeared. Although the members of this group make their home in burrows in the soil which has to be dug out, the rastellum has not been developed into the strong teeth which are so typical in the previously described families; but in most cases the bristles on the front edge of the mandibles are simply hardened, retaining their bristly form. The spinnerets, as the name of the group implies, are short and stout; the first joint is longer than the remaining two together, the third shortest and nearly hemispherical.

The genera of which we have representatives in Australia all fall into the one group of *Barycheleæ*, distinguished by the strongly procurved front row of eyes; the front laterals being brought down to a position on the margin of the clypeus, where they are near together, forming a pattern of which the extreme form is seen in *Idiops* Perty, the whole group being at least not broader than long.

Genus IDIOMMATA Auss.

Idiommata Auss., R. I. Pocock, Ann. & Mag. Nat. Hist. ser. 6, vol. xvi. 1895, p. 225.

Idiommata Auss., Rev. O. P. Cambridge, Proc. Zool. Soc. Lond. 1870, p. 154.

Idiommata Auss. Verh. zool.-bot. Ges. Wien, 1871, p. 183.

Idiommata Auss., L. Koch, Arachn. Austr. 1874, p. 474.

Encyocrypta E. Simon, Ann. Soc. Ent. Fr. 1888, p. 247.

Idiommata Auss., E. Simon, Hist. Nat. d. Araign. vol. i. 1892, p. 121.

Type, *Idiommata blackwalli* Cambr.

In the year 1895 Mr. Pocock, on re-examining Mr. Cambridge's type specimen, discovered (*loc. cit.*) that (in the male at least, the female not being known to him) *Id. blackwalli* is furnished with a Wood-Mason's stridulating organ, which the females, at any rate those in the British Museum, identified as *Id. reticulata* L. Koch, had not. *I. blackwalli* being the type of the genus *Idiommata* Auss., it is clear that the other species, until proved to have the stridulating organs, cannot be included in the same genus; and Mr. Pocock therefore re-characterized the genus *Encyocrypta* Simon, for the non-stridulated species. I record them as such, as it is necessary to obtain and examine more specimens before it can be seen how far the males and females agree respectively with those of *I. blackwalli*.

IDIOMMATA BLACKWALLI Cambr.

Idiommata blackwalli Rev. O. P. Cambridge, *loc. cit.*; L. Koch, *loc. cit.*; R. I. Pocock, *loc. cit.*; Ausserer, Verh. zool.-bot. Ges. Wien, Band xxv. 1875, p. 164.

Described from male only.

Herr Ausserer states (*loc. cit.*) that the cephalothorax and back of abdomen are thickly clothed with silver hair. Legs and palpi dark, nearly black.

Genus ENCYOCRYPTA Simon.

Encyocrypta Simon, R. I. Pocock, Ann. & Mag. Nat. Hist. ser. 6, vol. xvi. 1895, p. 225.

Encyocrypta E. Simon, Ann. Soc. Ent. Fr. 1888, p. 247.

Idiommata Auss., E. Simon, Hist. Nat. d. Araign. vol. i. (1892) p. 121.

Type, *E. meleagris*.

This genus was created by M. Simon for a New Caledonian member of the group (*meleagris*), but was subsequently merged by him in the genus *Idiommata* Auss., from which, under the circumstances above detailed, it was again resuscitated by Mr. Pocock.

From Herr Ausserer's synopsis of species (Verh. k.k. zool.-bot. Ges. Wien, Band xxv. 1875, p. 164) I translate the following:—

- | | |
|---|----------------------------|
| 1. Cephalothorax and upper side of abdomen not clothed with silver hair | 2. |
| 2. Front middle eyes of second group at least their diameter apart; cephalic fovea deep half-moon shape with the opening in front | <i>E. fusca</i> L. K. |
| Front middle eyes of second group less than their diameter apart; thoracic fovea straight | 3. |
| 3. Abdomen brownish yellow, with a dark reddish-brown network spread on it | <i>E. reticulata</i> L. K. |
| Abdomen black-brown, with yellowish-brown hairs without any network marking | <i>E. aussereri</i> L. K. |

ENCYOCRYPTA RETICULATA L. Koch.

Encyocrypta reticulata R. I. Pocock (*loc. cit.*).

Idiommata reticulata L. Koch, Arachn. Austr. 1874, p. 47.

From British Museum specimens (three females from Rockhampton) labelled *E. reticulata*, I take the following particulars:—

The colour is chestnut-brown to lighter yellow-brown all over. The abdomen is clothed with thick short brown hair, intermingled with bristles and some spines. The six rear eyes yellow, the two front black.

A light rastellum of spinous bristles. 8 large teeth on inner margin of falc-sheath; 12 quite small intermediate at lower end; 1 large at lower end of outer edge. Thoracic fovea procurved (?).

Sternum a broad oval. Of the sternal sigillæ the three posterior pairs are moderate in size and marginal; the anterior pair under the lip very large.

The lip broader than long, strongly convex; no club-shaped bristles; it is somewhat rounded anteriorly, with a thick bunch of bristly hairs. On the lower end of the maxillæ is a distinct heel with 7 or 8 club-shaped spines. There is a thick divided scopula on all tarsi, the metatarsi of the front two pairs, and at the anterior end of the rear two pairs. All the tarsi are without spines; the front two pairs of metatarsi are without them; the other two pairs of metatarsi have a good many spines on both upper and under side. The inferior mammillæ are very minute and close together; in the superior pair the second joint is nearly as long as the first, the third short and hemispherical.

Measurements in millimetres.

		Long.	Broad.			
Cephalothorax ..		11	7½			
Abdomen		10	6			
Mandibles		4				
				Tib. &	Metat.	
				pat.	& tars.	
Legs	1.	4	8	8	5½	= 25½
	2.	4	7½	7½	5	= 24
	3.	3½	6½	6½	6½	= 23
	4.	4	8½	8½	10	= 31
Palpi		3½	6	5	2½	= 17

ENCYOCRYPTA FUSCA L. Koch (R. I. Pocock, *loc. cit.*).

Idiommata fusca L. Koch, Arachn. Austr. (1874) p. 475.

ENCYOCRYPTA AUSSERERI L. Koch (R. I. Pocock, *loc. cit.*).

Idiommata aussereri L. Koch, Arachn. Austr. (1874) p. 476.

ENCYOCRYPTA FULIGINATA Thor.

Idiommata fuliginata Thor. Ann. Mus. Gen. xvii. 1881, p. 243.

Male from Cape York.

Genus TRITTAME L. Koch, Arachn. Austr. (1874) p. 482.

Trittame L. Koch, E. Simon, Hist. Nat. d. Araign. (1892) p. 124.

The type species, *Trittame gracilis* L. Koch. No specimen recorded since.

Genus IDIOCTIS L. Koch.

Idioctis L. Koch, Die Arachn. Austr. (1874) p. 483.

Idioctis L. Koch, Simon, *loc. cit.* p. 125.

Type, *Idioctis helva* L. Koch, from Ovalau, Fiji.

Idioctis (Koch) has the eyes in one group (*Idiommata* in two). According to Simon, it only differs from *Idiommata* in having the lip longer than broad, an exceptional character in this group.

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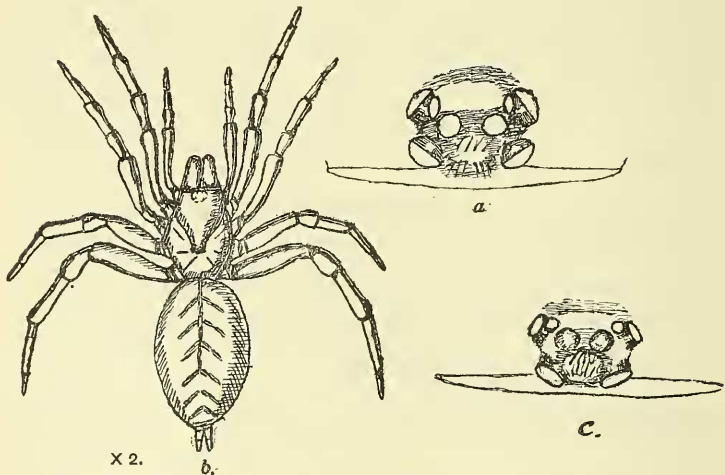
This statement will be seen to be only a printer's error in the description of the genus, as in that of the type species it is the other way—the lip is broader than long, and no exception to the rest. However, the eye-space is certainly much shorter than in *Idiommata* or *Encyocrypta* (at any rate than in *E. reticulata* L. K.); and I think the genus should stand.

I recorded specimens of *Idioctis helva* L. Koch as having come from Central Australia (Horn Expedition, vol. ii. p. 335). On comparing my notes with specimens of *I. helva* in the British Museum, this must clearly be a new species, which I describe below under the name of *I. palmarum*.

Genus IDIOCTIS L. Koch.

IDIOCTIS PALMARUM, n. sp. (Text-fig. 26.)

Text-fig. 26.



a. Eyes of *Idioctis helva* (Keyserling Collection). b. *I. palmarum*.
c. Eyes of *I. palmarum*.

Cephalothorax, mandibles, legs, and palpi walnut-brown; sternum, lip, and maxillæ rather paler. Abdomen—upperside yellowish brown with dark-brown median line, six dark lines on either side, thence sloping towards the rear; underside rather paler without distinct markings, posteriorly the yellow shading into grey.

Cephalothorax ovate, truncate anteriorly, rounded at rear; cephalic part distinctly separated by lateral furrow. Thoracic fovea transverse, straight.

Front side-eyes rather less than their diameter apart; front median two-thirds diameter of latter, half their diameter apart;

rear side-eyes about the same diameter as front middle. Whole eye-space broader than long; an oval tubercle between the median and side pairs of front row of eyes has long bristles curling backwards.

The lip is broader than long, almost triangular, with a small triangular process at the apex, but without spines. The maxillæ are divergent, hollowed at base round the lip; rather thickly bespined at the basal part. The falx-sheath has six large teeth on the inner edge. Patella iii. has a thick row of spines on the anterior side.

The abdomen is oval, rounded at the sides.

Measurements in millimetres.

		Long.	Broad.					
Cephalothorax	..	6	3 in front					
			5 in middle.					
Abdomen	.....	2½	6¼					
				Tib. &	Metat.			
				pat.	& tars.			
Legs	.....	1.	2	5	4	=	16	
		2.	2	4½	4	=	15	
		3.	2	4½	4	=	14½	
		4.	2½	6	6	=	20½	

Locality. Palm Creek, Central Australia.

Besides its larger size, this differs from L. Koch's *I. helva*, from Ovalau, in having the sides of the lip more sloping, the second, third, and fourth pairs of legs longer in proportion, and both median pair and laterals of front row of eyes respectively nearer together.

Subfamily AVICULARIINÆ.

This subfamily, which contains all the largest members of the Mygalomorphae, is characterized by being without both the third claw and rastellum. Of the ten groups into which M. Simon divides it, we are only concerned with two, the *Ischnocoleæ* and *Selenocosmiæ*; and if Mr. Pocock's supposition be found correct, that after examination of more specimens of the former, they may possibly all prove to be the young of other genera, we shall have only about two genera, both falling into the latter group. So far no specimens have been recorded from New Zealand.

The groups may be characterized as follows:—

- Having no stridulating organs. Scopulæ of all tarsi divided. (Simon, Nat. Hist. des Araign. vol. i. 1892, p. 132.)..... ISCHNOCOLEÆ.
- Having a Wood-Mason's stridulating organ, consisting of spini-form setæ on mandible and an oval cluster of bacilli; without fringe of hairs on maxillæ. Tarsal scopulæ of 1st, 2nd, and 3rd legs undivided. (Fauna of Brit. India, Arachn., R. I. Pocock, 1900.)..... SELENOCOSMIÆ.

Group ISCHNOCOLEÆ.

This group has been formed on the distinction of the tarsal scopulæ being divided by a line of setæ; but, as shown by Mr. Pocock (Ann. & Mag. Nat. Hist. ser. 6, vol. xvi. (1895) pp. 225-230), among those species which in an adult state have an integral scopula, it is always more or less divided in its earlier stages, and also that a considerable number of types of described species of *Ischnocolus* Auss. are certainly the young of members of other genera; so that it is possible that this may be the case with the only one recorded in Australia.

Genus ISCHNOCOLUS Auss.

Ischnocolus Auss. Verh. zool.-bot. Ges. Wien, Bd. xxi. (1871) p. 184.

Type, *I. holosericeus* Auss.

ISCHNOCOLUS LUCUBRANS L. Koch.

Ischnocolus lucubrans L. Koch, Die Arachn. Austr. (1874) p. 487; Auss. Verh. zool.-bot. Ges. Wien, Bd. xxv. (1875) p. 173.

This species is unknown to me. It is distinguished (*sec.* Auss.) by the underside of metatarsus ii. having no spines at the fore end, and by the rear-side and middle eyes being equally large—points also applicable to *Selenocosmia crassipes* L. Koch. *Selenocosmia* is, of course, easily distinguishable by its stridulating organs, which Mr. Pocock has shown (*loc. cit.*) that several so-called *Ischnocoli* possess.

Herr Koch's type of this species is not available. I leave the record as it stands, but the presence of the genus in Australia requires confirmation.

Group SELENOCOSMIEÆ.

Synopsis of Australian Genera.

Rear legs less stout and not longer than front legs. Front row of eyes straight or procurved *Selenocosmia* Auss.
Rear legs longer and stouter than front pair. Front row of eyes recurved *Selenotypus* Pocock.

Genus SELENOCOSMIA Auss.

Selenocosmia A. Ausserer, Verh. zool.-bot. Ges. Wien, Band xx. (1871) p. 204.

Phrictus L. Koch, Arachn. Austr. (1874) p. 488 (*nom. preocc.*).

Phlogius E. Simon, Bull. Soc. Ent. Fr. (6) vol. vii. (1887) p. excv; Hist. Nat. d. Araig. vol. i. (1892) p. 146.

Selenocosmia Auss., R. I. Pocock, Ann. & Mag. Nat. Hist. ser. 6, vol. xv. (1895) p. 170; *ibid.* vol. xvi. (1895) p. 229.

Type, *S. javanensis* Walck.

Synopsis of Species.

1. Line joining centres of front row of eyes straight. Eyes in same about equal in size. Legs whole-coloured throughout *S. stirlingi*, n. sp.
2. Line joining centres of front row of eyes procurved. 2.
2. (Male.) First and fourth pairs of legs about equal in length. In the front row of eyes a line touching the lower part of the middle pair passes through the centres of the laterals. Femur i. & ii. chocolate-brown underneath { *S. vulpina*, n. sp.
? *S. crassipes* L. Koch.
- (Female.) First pair of legs distinctly longer than the fourth. Front row of eyes so far procurved that a line touching the lower points of the middle pair passes above the side-eyes (*sec.* Thor.) *S. strenua* Thor.

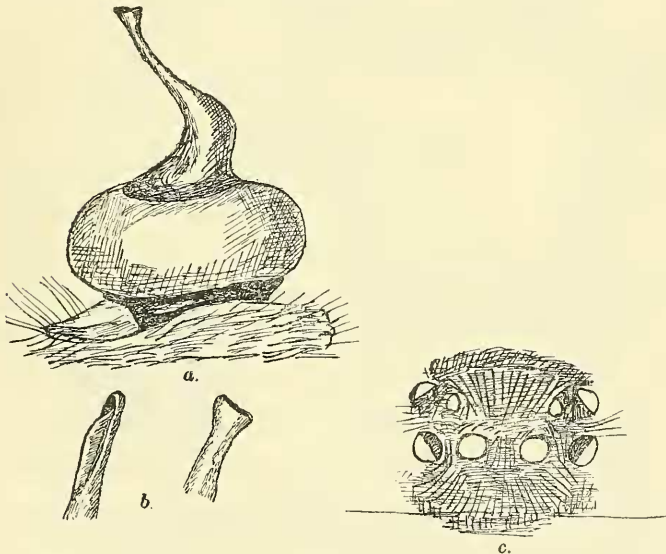
SELENOCOSMIA CRASSIPES L. Koch.

Phrictus crassipes L. Koch, Die Archn. Austr. (1874) p. 490.

Phlogius crassipes E. Simon, *loc. cit.*

SELENOCOSMIA STIRLINGI, n. sp. (Text-fig. 27.)

Text-fig. 27.



Selenocosmia stirlingi. a. Male palpal organ; b, extremity, enlarged from upper and under sides. c. Eyes.

This species has a wider range over Australia apparently than any other of the group. I have met with specimens from New Guinea through Queensland to about the northern border of New South Wales, through Central and South Australia, to lat. 25° 30', and in Western Australia from the latitude of Perth. Until the

male was known it was supposed to be L. Koch's *S. crassipes*, from which it differs in the coloration of the legs.

To many female specimens I have only seen one male, sent to the British Museum from Crown Point Station, S. Australia.

The measurements (in millimetres) compare as follows:—

		<i>Female.</i>				
		Long.	Broad.			
			{ 11 in front.			
Cephalothorax ..		18	{ 16			
Abdomen		28	{ 20			
Mandibles		$6\frac{1}{2}$				
		Coxa..	Tr. & fem.	Pat. & tib.	Metat. & tars.	
Legs	1.	9	17	17	15	= 58
	2.	8	14	14	14	= 50
	3.	7	12	12	14	= 45
	4.	8	16	16	18	= 58
Palpi		9	12	12	7	= 40
		<i>Male.</i>				
		Long.	Broad.			
Cephalothorax ..		16	14			
Abdomen		$17\frac{1}{2}$	14 Spinnerets 8.			
Mandibles		6				
		Coxa.	Tr. & fem.	Pat. & tib.	Metat. & tars.	
Legs	1.	$8\frac{1}{2}$	18	19	18	= $63\frac{1}{2}$
	2.	$7\frac{1}{2}$	16	$17\frac{1}{2}$	16	= $56\frac{1}{2}$
	3.	6	14	15	19	= 54
	4.	7	17	18	22	= 64
Palpi		$6\frac{1}{2}$	13	14	4	= $37\frac{1}{2}$

The point of the stigma of palpal bulb of male is broadened into a flattened scoop, but not to the same extent as in *S. vulpina*, n. sp., below.

SELENOCOSMIA STRENUA Thor.

Selenocosmia strenua Thor. Ann. Mus. Genova, vol. xvii. (1881) p. 253.

Described from an adult female from Somerset, Cape York (Gulf of Carpentaria).

This species is unknown to me; but the Australian Museum at Sydney possesses specimens from New Guinea, identified by Mr. W. J. Rainbow, F.L.S.

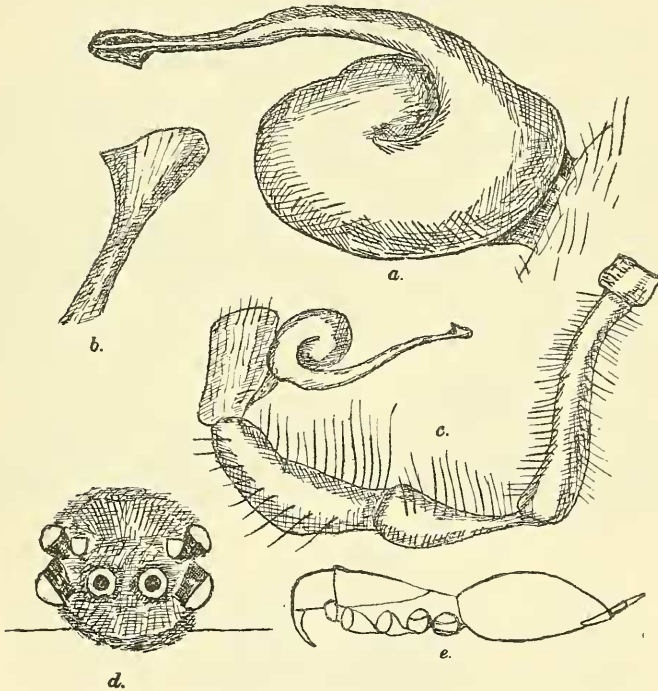
SELENOCOSMIA VULPINA, n. sp. (Text-fig. 28, p. 247.)

Male.—Colour. The cephalothorax is black-brown, covered with short matted yellowish-brown hair which extends over the whole of the falces but is longer on the lower half. The sheath-fringe

is darker reddish brown. Lip and maxillæ bright red; sternum dark brown. The legs and palpi yellowish brown above, darker and redder on tarsi and metatarsi. The coxæ of all legs, and the underside of the femur and trochanter of 1st and 2nd pairs are a rich chocolate-brown. Scopulæ a dirty dark brown. Abdomen above is a rather pale reddish brown, yellower underneath; spinnerets darker.

The *cephalothorax* is a tenth part longer than broad, tapering at front and rear to little more than half its greatest breadth. Thoracic fovea procurved.

Text-fig. 28.



Selenocosmia vulpina. a. Palpal bulb from above; b, ditto from beneath.
c. Whole of palp. d. Eyes. e. Profile.

The eye-space is about twice as wide as long, a good deal raised, the prominence extending $1\frac{1}{2}$ times the diameter of the front middle eyes beyond them, to over the margin of the clypeus.

The front row of *eyes* is rather procurved; the middle pair being three-fourths of their diameter apart. The oval side-eyes obliquely-set, once and a half the diameter of middle and once and a half their diameter away from middle. (A line across the top of the middle eyes passes quite clear of the laterals, across the bottom

about through their centre.) The rear side-eyes, oval, have their long diameter equal to that of the front middle. The rear middle eyes are truncate posteriorly, half the diameter of the rear side therefrom, the line joining the centres of the four being slightly recurved. Front and rear laterals clearly separated. The front middle eyes have yellow rims with black centres.

The *mandibles* are as long as the front patella, thickly clothed with short down-lying hair merging into longer at the front end and on the inner side of the falx. Fangs rather long.

The *maxillæ* are divergent, the base being curved round the lip to a narrowish heel at the outer corner. There is a bunch of numerous club-shaped spines about the middle of the base. The upper inner corner alongside the insertion of the trochanter is moulded into a small rounded protuberance.

The *lip* is unfortunately broken and its form not distinguishable.

The *abdomen* is oval, long and narrow, thickly covered with a mat of rather long bristly hair, but no spines. The superior spinnerets straight and tapering, one half the length of femur and trochanter iv.

The *palpi* are comparatively short. The femoral joint incurved, the patellar and tibial joints covered with long bushy hair; metatarsal quite short. The bulb is rather large and well rounded, twisting at the top so that the stigma, which in length equals twice the diameter of the bulb, proceeds from the inner side of the basal portion. The apex of the stigma is much dilated (as in *S. lanipes* Auss. Arachn. Austr. 1875, p. 187 & plate), but the bulb is much more globular.

The *legs* are powerful, the front pair being thicker than the rear, and thickly covered with long bushy hair. The scopula on the fourth metatarsi reach slightly beyond half-way up the joint, but merges into bristles. There are no spines or marks of them visible on any of the legs.

Measurements in millimetres.

		Long.	Broad.			
Cephalothorax	..	16½	{ 8 front. { 15 middle.			
Abdomen	.....	18	10			
Spinnerets	4, 3, 2½ = 9½.					
		Coxa.	Tr. & fem.	Pat. & tib.	Metat. & tars.	
Legs	..... 1.	8	19	24	19	= 70
	2.	8	17	18	17	= 60
	3.	7	14	15	17	= 53
	4.	7	18½	21	23	= 69½
Palpi	.....	7	13	14	4	= 38

This species (a single male from Cape Upstart, near Bowen, Queensland, dried specimen in Brit. Mus. N. H. received in 1873)

is very much smaller than *S. lanipes* Auss., which it somewhat resembles, the cephalothorax being only two-thirds the length. The colouring is apparently lighter, no bare streaks on patellæ and femora nor on inner side of rear femora.

The 1st and 4th pairs of legs are about equal in length, instead of 4th much longer, and 3rd shorter than 2nd instead of slightly longer. The process of the palp is not so much curled though the end is about the same in shape.

Coming from the same neighbourhood, this may prove to be the male (unknown) of L. Koch's *S. crassipes*.

Genus SELENOTYPUS R. I. Pocock.

Ann. & Mag. Nat. Hist. ser. 6, vol. xv. p. 176 (Feb. 1895).

For a Spider, a female, from Major's Creek, Townsville, Queensland, Mr. Pocock rightly constituted a new genus.

It differs from *Selenocosmia* Auss. in having the cephalic part not so much convex, the fovea deeper and more procurved, the front row of eyes recurved, the oval laterals of same not more than three-fourths the diameter of the median, the rear median nearly as large as the front lateral and larger than the rear, the whole of the clearly recurved rear row rather widely separated one from the other, and the 4th pair of legs much longer as well as stouter than the 1st.

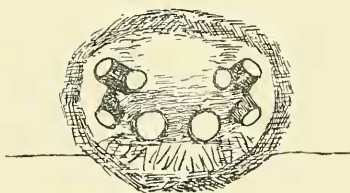
Type, *S. plumipes* Pocock.

SELENOTYPUS PLUMIPES Pocock. (Text-fig. 29.)

Selenotypus plumipes Pocock, *loc. cit.*

This fine species is the largest of all our Australian Spiders, having a total length of 59 mm. It is much more thickly covered

Text-fig. 29.



Selenotypus plumipes. Eyes.

with hair than is *Selenocosmia crassipes* L. Koch, or indeed than any others of the group.

I make the measurements as follows, but from a dried specimen it is difficult to take them with perfect accuracy.

Measurements in millimetres.

		Long.	Broad.			
Cephalothorax ..		22½	{ 12 front. { 17½ middle.			
Abdomen		30		20		
Mandibles		7				
				Pat. & tib.	Metat. & tars.	
Legs	1.	Coxa. 10	Tr. & fem. 17½	19½	15	= 62
	2.	8	15	16	14½	= 53½
	3.	7	15	14	16	= 52
	4.	9	19	22	24	= 74
Palpi		10	13	15	7½	= 45½

Subfamily DIPLURINÆ.

This subfamily is distinguished by having three claws, no rastellum, and the lip free. The superior mammillæ vary from less than one-third the length of the cephalothorax (*Hadronyche* L. Koch) to more than the whole length (*Cethegus* Thorell). The group *Mastericeæ*, though represented in New Guinea and the Pacific Islands, has not been found in Australia or New Zealand.

The genera resolve themselves into fairly definite groups as follows:—

- | | |
|--|---------------|
| 1. Six spinnerets | HEXATHELEÆ. |
| Four spinnerets only | 2. |
| 2. Tarsal claws with two rows of pectinations. Inferior mammillæ near together (not more than 2 diameters apart). Tarsi unbespined. Scopulæ on front two pairs of tarsi and at least partially on same metatarsi. No teeth on the outer margin of the falx-sheath. Sternal sigillæ of moderate size and marginal. Front row of eyes procurved. Superior spinnerets generally not exceeding half the length of the cephalothorax..... | BRACHYTHELEÆ. |
| Tarsal claws with one row only of pectinations..... | 3. |
| 3. Inferior mammillæ widely separated, about 4 of their diameters apart. No scopulæ on any legs. No row of teeth on outer margin of falx-sheath. Sternal sigillæ of moderate size and marginal. Superior mammillæ at least not much shorter than the cephalothorax | MACROTHELEÆ. |
| Inferior mammillæ close together, about 1 diameter apart. Tarsi of all legs thickly bristled and bespined. Two rows (besides an intermediate at lower end) of teeth on falx-sheath. Sternal sigillæ large and removed from margin. Superior mammillæ short, hardly exceeding two-fifths the length of the cephalothorax | ATRACEÆ. |

Group BRACHYTHELEÆ.

The group into which the genera hereunder collected fall is associated by M. Simon with the genus *Diplura* under the name of *Diplurea*. In the first place, however, we have no genera to record following the *Diplura* side of it. Secondly, as shown by Mr. F. O. Pickard-Cambridge (Proc. Zool. Soc. Lond. 1896,

p. 716), at least some of the species hitherto attributed to that genus (*Trechona* C. Koch, and those for which he has constituted the genera *Harmonicon* F. O. P.-C., and *Melodeus* F. O. P.-C., *loc. cit.*) are furnished with stridulating organs; and it is not impossible that the type species itself, *D. macrura* L. Koch, may on examination prove to have them also, in which case the whole group would require remodelling. Thirdly, the genera centring around *Brachythele* Auss. seem to form a better antithesis to M. Simon's other well distinguished group of *Macrotheleæ*.

In spite of the fact, therefore, that none of the Australian species examined by me really conform exactly to the genus itself, the characters represented by *Brachythele* Auss. seem to form the better natural group round which to collect them, and I have adopted it as the type genus.

Synopsis of Genera.

- | | |
|---|--------------------------------|
| 1. Thoracic fovea procurved. Tarsi and metatarsi of front two pairs scopulated but not to full length of latter. 3rd joint of superior spinnerets not longer than the 1st joint. Front row of eyes procurved though in some cases very slightly ... | <i>Aname</i> L. Koch. |
| Thoracic fovea straight | 2. |
| 2. Tarsi only of front two pairs with scopula. None on metatarsi. 3rd joint of superior spinnerets longer than 1st (or 2nd), thin and tapering | <i>Ixamatus</i> E. Sim. |
| Metatarsi of front two pairs of legs at least partially scopulated | 3. |
| 3. Front row of eyes procurved, side larger than middle. Tibia i. of male furnished with a single spur springing from an enlargement in the middle of the joint | <i>Chenistonionia</i> , n. gen |
| Front row of eyes straight. Tibia i. of male furnished with an apical spur. (<i>Sec.</i> Auss. ad partem <i>B. platipus</i> .) | <i>Brachythele</i> Auss. |

Genus ANAME L. Koch.

Brachythele Ausserer, Verh. zool.-bot. Ges. Wien, 1871, p. 174.

Aname L. Koch, Die Arachn. Austr. (1873) p. 469.

Brachythele Auss., E. Simon, Hist. Nat. d. Araign. i. p. 180 (1892).

Type, *Aname pallida* L. Koch.

M. Simon apparently considered (*loc. cit.*) Herr Koch's genus *Aname* to be synonymous with Ausserer's older genus *Brachythele* (type, *B. icterica* C. Koch). While, however, we have a group of several species agreeing with the genus formed for *A. pallida*, they differ in the following important respects from *Brachythele*.

The thoracic fovea is procurved instead of straight. (M. Simon forgives this.)

The front middle eyes (in *A. arborea* and *pellucida*, n. sp.) range up to 2 diameters apart, instead of being (*parum disjuncti*) near together. In general the row is procurved and not straight. The rear middle eyes are, except in *A. pellucida*, smaller than the

rear side, instead of nearly equal, nor are the latter (except in that species) smaller than the front side-eyes.

The two front metatarsi are scopulated only two-thirds up the joint instead of to the base; and lastly, but most important, the male has no apical spur on tibia i.

The species may be distinguished as follows:—

- | | |
|---|------------------------------|
| 1. The middle eyes of front row less than or about their diameter apart | 2. |
| The middle eyes of front row more than (more nearly two) their diameter apart | 3. |
| 2. On the upperside of the abdomen a black median longitudinal stripe with side stripes depending therefrom on a yellowish ground. (Sec. L. Koch.) | <i>A. pallida.</i> |
| Dark grey above with no recognizable pattern | <i>A. grisea</i> , n. sp. |
| 3. On back of abdomen two longitudinal rows of large yellow spots on black ground. Front and rear side-eyes the same length, rear middle shorter; front row procurved | <i>A. arborea</i> , n. sp. |
| Black median and side stripes on yellowish ground on back of abdomen. Front side-eyes longer than rear side; rear side and middle eyes of equal length; front row nearly straight | <i>A. pellucida</i> , n. sp. |

ANAME PALLIDA L. Koch.

Aname pallida L. Koch, Die Arachn. Austr. (1873) p. 469.

This species was unfortunately described by Herr Koch from a newly moulted specimen, at which time the whole of the cephalothorax, mandibles, fangs, mouth-parts, sternum, &c., are of a pale yellow colour, quite different from the normal dark brown or yellowish brown; and consequently the description is deceptive to the student. The yellow-brown hair of the cephalothorax looks almost black or dark grey in consequence. The dark median and side stripes on abdomen, and front middle eyes only half a diameter apart, serve to distinguish it.

I have seen no specimen, however, which I can recognize as being the same.

ANAME GRISEA, n. sp. (Text-fig. 30, p. 253.)

Cephalothorax and mandibles a dull yellowish brown, with dark brown hairs and black bristles on the latter. Legs and palpi yellow shaded with brown, with lighter brown hairs. Lip and maxillæ brownish yellow; sternum and rear coxæ bright golden yellow with brown bristles. Abdomen above black, mottled with irregular yellow spots, with long upstanding hairs medium to pale brown; underneath yellow, with small black mottlings and long dark brown hairs. Spinnerets pale yellow, with pale brown hairs.

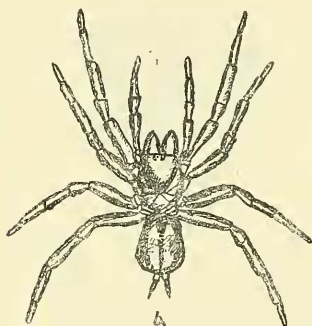
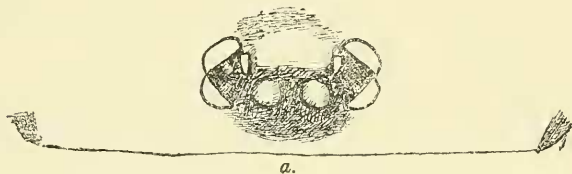
Cephalothorax rather oblong, truncate both anteriorly and posteriorly, sides curving slightly towards the rear. Cephalic part rather high, sloping to its highest point behind the eyes, thence rather downwards to the margin; clearly separated by a long, deep, straight thoracic fovea and deep side striations from the

thoracic part, on each side of which are three somewhat oval depressions.

Eyes. The front row is only slightly procurved; the two median three fourths their diameter apart; the side-eyes farther away, about one third longer in diameter than the median. The front and rear side are equal in diameter and almost contiguous. The middle eyes of rear row touch the laterals with their upper corner.

Sternum broad, shield-shaped, very convex. *Sigillæ* quite marginal, the posterior pair rather large.

Text-fig. 30.

*Aname grisea.* a. Eyes.

Lip convex, cup-shaped, broader than long, sides rounded, the front and rear edges both recurved and parallel; one or two club-shaped spines. *Maxillæ* rather broad, straight in front, a deep rounded heel at the outer posterior corner, thence curving inwards round the lip. Above this incurved part a thick group of club-shaped spines.

On inner margin of falk-sheath 8 large teeth and a few small intermediate at the lower end.

The superior tarsal claws have two rows of pectinations of 4 or 5 each, the 3rd claw without teeth. The tarsi are all unbespined. *Scopulæ* on the two front pairs reach two-thirds up the metatarsi also. The tibiæ and metatarsi are all bespined, and there are three short ones on the anterior side of patella iii.

The inferior spinnerets are their diameter apart. The superior tapering, the 1st and 3rd joints equally long, the 2nd shorter.

Measurements in millimetres.

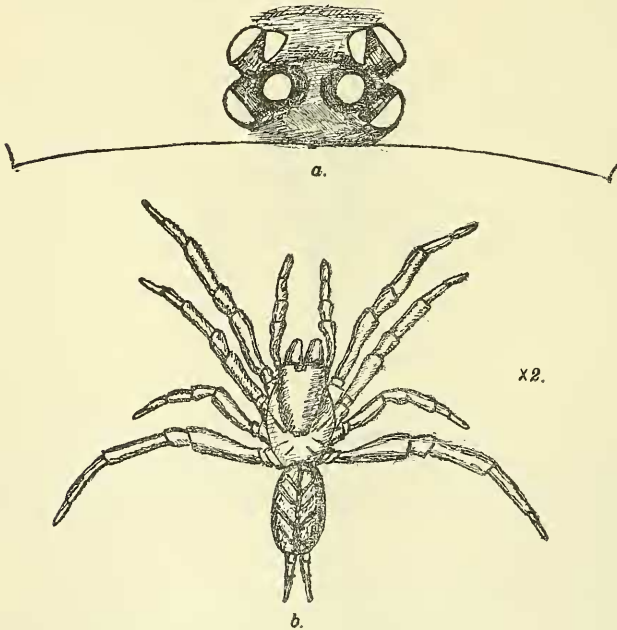
	Long.	Broad.				
Cephalothorax ..	4	$3\frac{1}{4}$				
Abdomen	4	3				
Superior spinnerets	$2\frac{1}{4}$					
	Coxa.	Tr. & fem.	Pat. & tib.	Metat. & tars.		
Legs	1.	$1\frac{3}{4}$	$3\frac{1}{2}$	4	$3\frac{1}{2}$	= $12\frac{3}{4}$
	2.	$1\frac{3}{4}$	3	$3\frac{1}{2}$	3	= $11\frac{1}{4}$
	3.	$1\frac{1}{2}$	$2\frac{3}{4}$	3	$2\frac{3}{4}$	= 10
	4.	$1\frac{3}{4}$	$3\frac{1}{2}$	4	4	= $13\frac{1}{4}$
Palpi		$1\frac{1}{2}$	$2\frac{1}{2}$	$2\frac{1}{4}$	$1\frac{1}{2}$	= $7\frac{3}{4}$

Three females from Macedon, Victoria.

ANAME ARBOREA, n. sp. (Text-fig. 31.)

Cephalothorax deep yellow, thinly covered with down-lying pale yellow hairs and a darker belt of longer hairs round the margin.

Text-fig. 31.



Aname arborea. a. Eyes.

Mandibles yellow-brown, with a longitudinal belt of brown hair beginning one-fourth their length from the base, thence widening and thickening to the lower end of the falx, where the bristles lengthen and harden into a light rastellum. Sternum, lip and

maxillæ, legs and palpi a bright golden yellow, with dark brown hairs and bristles. The abdomen has a black ground on the upper side, with a double longitudinal row of large yellow spots joined anteriorly and reaching to the spinnerets; beyond these on the side slopes smaller irregular yellow spots; underneath a yellow ground with a few black mottlings.

The eye-space is black, twice as wide as long. The front middle eyes are green, the remainder yellow.

The front row of eyes is clearly procurved. On a common protuberance of their own the median are $1\frac{1}{2}$ diameter apart but only one half their diameter from the laterals, whose long diameter is $1\frac{1}{2}$ times that of the median. The rear row is slightly recurved, its laterals the same size as the front laterals, are half their diameter away. The rear middle eyes are smaller than the laterals, and touch them with their upper corner.

The falx-sheath has 7 large teeth on inner margin and 2 small off the row to the outside.

The patella and tibia of all legs have two bare long streaks with an intervening row of hairs.

The superior spinnerets have the 3rd joint but slightly longer than the 2nd, both being shorter than the 1st.

In other respects this agrees with the foregoing (*A. grisea*). It differs from *A. pallida* L. Koch in coloration of abdomen, and in the front middle eyes being $1\frac{1}{2}$ diameter instead of only $\frac{1}{2}$ diameter apart.

Measurements in millimetres.

	Long.	Broad.			
Cephalothorax ..	6	$4\frac{1}{2}$			
Abdomen	6	$3\frac{1}{2}$			
Superior spinnerets	$3\frac{1}{2}$				
			Pat. &	Metat.	
	Coxa.	Tr. & fem.	tib.	& tars.	
Legs	1. $2\frac{1}{2}$	$5\frac{1}{4}$	$5\frac{1}{2}$	4	= $17\frac{1}{4}$
	2. $2\frac{1}{2}$	$4\frac{1}{2}$	$4\frac{1}{2}$	$3\frac{1}{2}$	= 15
	3. 2	4	3	3	= 12
	4. $2\frac{1}{2}$	$5\frac{1}{4}$	6	6	= $19\frac{3}{4}$
Palpi	2	3	$2\frac{1}{2}$	$1\frac{1}{2}$	= 9

Two females from Macedon, Victoria.

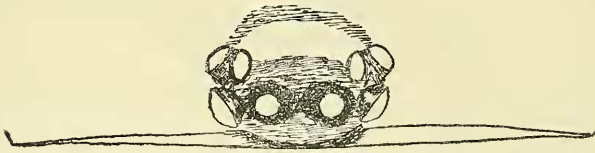
ANAME PELLUCIDA, n. sp. (Text-fig. 32, p. 256.)

Cephalothorax, legs, and mandibles rather bright pale yellow; hairs brownish grey. Cephalic part not so much raised up as in *A. grisea*. Abdomen black above, with yellow side-streaks 5 in number. (The other parts are pale cream-colour, probably from recent moulting.)

The eyes are all pale yellow. The front median, each on a round black tubercle, are 2 diameters apart. The front side-eyes are longer than the rear side $1\frac{1}{2}$ of their diameter. The long diameter of the rear middle eyes is the same as that of their laterals, from which they are just clearly separated. The front middle are the

same distance (their diameter) from the rear middle and the front side. The centres of the front row are in a straight line, those of the rear row recurved.

Text-fig. 32.

*Aname pellucida*. Eyes.

Measurements in millimetres.

	Long.	Broad.				
Cephalothorax ..	$8\frac{1}{2}$	$6\frac{1}{2}$				
Abdomen	9	$5\frac{1}{2}$				
Mandibles	3					
Superior spinnerets	$2\frac{1}{2}, 1, 1\frac{1}{4} = 4\frac{3}{4}$.					
	Coxa.	Tr. & fem.	Pat. & tib.	Metat. & tars.		
Legs	1.	4	7	$7\frac{1}{2}$	$6\frac{1}{2}$	= 25
	2.	$3\frac{1}{2}$	$6\frac{1}{2}$	7	6	= 23
	3.	3	$5\frac{1}{2}$	$5\frac{1}{2}$	$6\frac{1}{2}$	= $20\frac{1}{2}$
	4.	$3\frac{1}{2}$	7	8	8	= $26\frac{1}{2}$
Palpi	$3\frac{1}{2}$	$5\frac{1}{2}$	5	5	3	= 17

In other points the same as the foregoing (*A. arborea*).

Besides its much greater size, this differs from *A. pallida* L. Koch in the greater distance and colour of its front middle eyes, the equality in size of its middle and side eyes of rear row, the straighter front row; the 1st and 4th pairs of legs being more nearly equal in length.

One female from Macedon.

Genus BRACHYTHELE AUSS.

This genus should have the front row of eyes straight. Thoracic fovea straight. Front tibia of male furnished with an apical spur. Tarsus and metatarsus of front two pairs fully scopulated.

Type, *B. icterica* C. Koch.

On comparing the Australian with some S.-American specimens of *Brachythele* recently to hand, they certainly agree in many points. In eyes, spines of lip, shape of maxillæ and sternum, and type of superior mammillæ they agree. In the Australian the cephalic part is rather more raised up and the fovea deeper; the inferior mammillæ are nearer together. In the S.-American all the tarsi are scopulated instead of only the front two pairs, and are more flexuous instead of straight and firm.

The generic differences of *Aname* Koch and *Ixamatus* Sim. are very slight, and they might well be combined, though they can be clearly distinguished from *Brachythele* Auss., and *Hapalothele* Lenz.

BRACHYTHELE PLATIPUS AUSS.

Brachythele platipus Auss. Verh. zool.-bot. Ges. Wien, 1875, p. 159.

Described by Ausserer from a cephalothorax only, from Herr L. Koch's collection and marked New Holland, without further description.

The length of cephalothorax is 7.5 mm. = tibia + patella iv., as in all the species of *Aname* L. Koch. Breadth of cephalothorax 5.8 mm.

The front middle eyes are somewhat more than their diameter apart; and the hair-covering of the cephalothorax is dingy yellow-brown.

The description is inadequate to show in what it differs from the species of *Aname* above described, to which genus it probably belongs; but I leave it as given until proof can be shown, from more material, of the genus to which it should really be attached.

Genus IXAMATUS Simon.

Ixalus L. Koch, Die Arachn. Austr. 1873, p. 469 (*nom. præocc.*).

Hapalothele H. Lenz, Zool. Jahrb. 1886, Band i. pp. 396-7.

Ixamatus E. Simon, Ann. Soc. Ent. Fr. 1887, Bull. (note).

Hapalothele Lenz, E. Simon, Hist. Nat. d. Araign. vol. i. p. 180.

Type, *I. varius* L. Koch.

M. Simon gave the above name to Herr Koch's genus *Ixalus*, which name had been used before, for a group of mammals. He subsequently, however, referred it to Lenz's *Hapalothele*, type *H. reuteri*, from the island of Nossi-bé off N.W. coast of Madagascar.

In Lenz's genus the male has an apical spur on tibia i., which is not the case in either of the species below, which follow exactly *Ixamatus* Simon. Further, the front row of eyes is straight or recurved, instead of procurved as in *Ixamatus*, and its members have *no scopula*, instead of having tarsi i. & ii. thickly scopulated; moreover the tarsal claws have only one row of pectinations apparently crossing them, as in the *Macrotheleæ* and *Atracææ* groups, whilst in the Australian species of *Ixamatus* they are strongly biseriata.

The superior spinnerets are slender, the last joint tapering and longer than either of the others.

The thoracic fovea is straight, and the metatarsi are not scopulated on any of the legs.

The species may be distinguished as follows :—

The front row of eyes about equally large	1.
Side-eyes of front row nearly twice the diameter of middle	2.
1. Front row clearly procurved. Palpal stigma in male twisted and dilated at apex	<i>I. gregorii</i> , n. sp.
— Front row straight. Palpal stigma in male tapering to a point and about the length of the bulb (<i>sec.</i> L. Koch)	<i>I. varius</i> L. Koch.
2. Palpal stigma in male very long and attenuated (twice the length of bulb).....	<i>I. broomi</i> , n. sp.

IXAMATUS VARIUS L. Koch.

Ixamatus varius L. Koch, Die Arachn. Austr. (1873) p. 469.

Described from a male from Bowen, Queensland: the species is unknown to me.

According to L. Koch, the legs are much shorter in proportion to the cephalothorax and abdomen than either of the other two species described below; his measurements being: ceph. 7 mm., abd. 8, palpi 10; legs 16, 15, 13, and 18 mm. respectively.

IXAMATUS GREGORII, n. sp. (Text-fig. 33, p. 259.)

The cephalothorax and mandibles are dark yellowish brown, with down-lying yellow hair and a belt of upstanding brown bristles round the margin of the former and on the front of the latter. A straight deep fovea and bare side-streaks separate the long and rather narrow cephalic part from the thoracic.

The legs and palpi are the same, yellowish brown shaded in places with darker brown; the tibiæ and metatarsi wholly dark brown. They are thickly covered with a mixture of long yellow, grey, and brown bristly hairs. The tarsi of the front two pairs have pale yellow, almost white scopulæ which extend half-way up the corresponding metatarsi.

The lip, maxillæ, sternum, and coxæ are yellow shaded with brown, and furnished with upstanding bristly brown hair, paler on the coxæ.

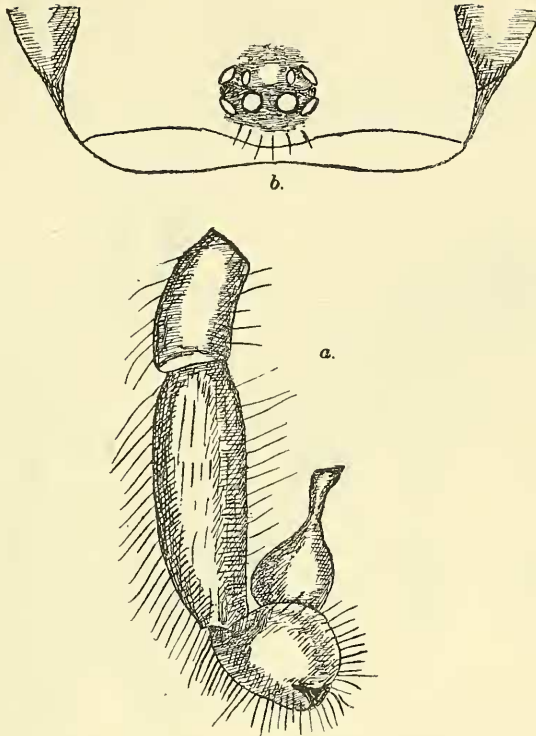
The abdomen above is dark grey mottled with large yellow spots; below yellow, with smaller black mottlings.

The superior spinnerets are pale yellow above, greyer underneath, with yellowish-grey hairs.

This differs from *I. broomi* in having the front and rear side-eyes equal in diameter to the front middle, which are half their diameter apart; in having the last joint of the superior spinnerets equal in length to the second and shorter than the first. The legs much more bristly; the thoracic fovea straighter; a few spines on the front of the lip; the style of the male palp short and curling, the length only of the bulb.

The tarsi also are weak and sinuous, the front two metatarsi partially scopulated, and on the anterior side of patella iii. are three short stout spines as in *Aname grisea* described above (p. 253).

Text-fig. 33.



Ixamatus gregorii. a. Male palp. b. Eyes.

Measurements in millimetres.

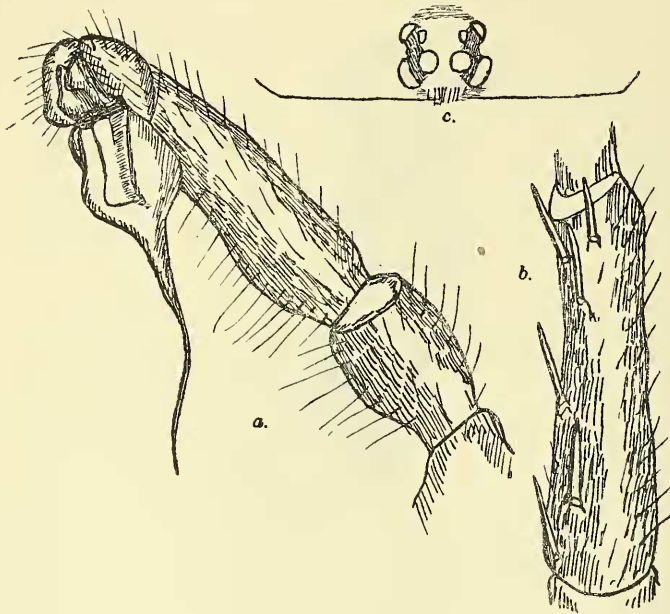
		Long.	Broad.				
Cephalothorax		$4\frac{1}{2}$	$3\frac{1}{2}$				
Abdomen		$4\frac{1}{2}$	3				
Superior spinnerets		$1\frac{1}{4}$, 1, 1	$= 3\frac{1}{4}$.				
		Coxa.	Tr. & fem.	Pat. & tib.	Metat. & tars.		
Legs	1.	$2\frac{1}{4}$	$4\frac{1}{2}$	5	$5\frac{1}{4}$	=	17
	2.	2	$4\frac{1}{2}$	$4\frac{3}{4}$	5	=	$16\frac{1}{4}$
	3.	$1\frac{3}{4}$	$3\frac{3}{4}$	$3\frac{3}{4}$	$4\frac{1}{2}$	=	$13\frac{3}{4}$
	4.	2	$4\frac{1}{2}$	5	6	=	$17\frac{1}{2}$
Palpi		$1\frac{3}{4}$	$2\frac{1}{2}$	$4\frac{1}{2}$	1	=	$9\frac{3}{4}$

This specimen (a male) from Macedon, Victoria, I have named after my friend Prof. Gregory, of Melbourne University.

IXAMATUS BROOMI, n. sp. (Text-fig. 34.)

The cephalothorax is dull reddish brown; the mandibles, which are paler and more yellow-brown, have a bare streak along the outer edge and long brown bristles over the remainder. The legs and palpi are reddish brown above, deep yellow underneath, with brown hair, bristles and spines. The lip, maxillæ, sternum, and coxæ are bright golden yellow.

Text-fig. 34.



Ixamatus broomi. a. Male palp. b. Tibial joint of first pair of legs.
c. Eyes.

On the underside of the abdomen the chitinous shield forward of the breathing-slits is bright golden yellow, the gill-coverings and the spinnerets are the same colour, behind the breathing-slits pale yellow mottled with black. Along the back is a dark median stripe, on each side of which large yellow spots are irregularly distributed on a black ground.

The cephalothorax is a short oval, the cephalic part only slightly higher than the thoracic. The fovea is rather long and deep, and clearly recurved.

The front row of eyes, seen from the front, is slightly procurved; the median pair half their diameter apart, and rather less from the laterals, of which the long diameter is once and a half that of the

median. The rear row is recurved. The laterals in length equal the diameters of the front middle eyes. They are clearly separated from the still smaller rear middle eyes.

The whole eye-space is well raised up, the eyes yellow on a black ground.

The sternum is ovate, rather convex, covered with short stiff bristles; the sigillæ are nearly marginal and moderately large.

The lip is without spines, broader than long, rather straight at the sides and hollowed in front. The maxillæ are only slightly hollowed round the lip, with a bunch of quite small spines above that portion.

The falx-sheath has one row of 7 medium-sized teeth and no intermediate.

The legs and palpi are rather long and slight, thickly clothed with stout upstanding bristly hair; the tibiæ and metatarsi well bespined, the front two pairs of tarsi have a light scopula which does not extend along the metatarsi.

The tarsal claws are large and have 7 or 8 pectinations on the inner edge, one less on the outer.

On the underside of tibia i. of the male are 10 irregularly placed spines, but no spur.

The thin, finely curved style of the male palp is $2\frac{1}{2}$ times the length of the genital bulb.

The abdomen is oval, sparsely covered with fine upstanding bristles on round roots. The inferior mammillæ are two diameters apart. The superior pair have the third joint cylindrical and longest, the second shortest.

Measurements in millimetres.

		Long.	Broad.				
Cephalothorax		6	5				
Abdomen		$4\frac{1}{2}$	4				
Superior spinnerets 1, $\frac{3}{4}$, $1\frac{1}{4}$ = 3.							
		Coxa.	Tr. & fem.	Pat. & tib.	Metat. & tars.		
Legs	1.	3	6	$5\frac{1}{2}$	$6\frac{1}{2}$	=	21
	2.	$2\frac{1}{2}$	$5\frac{1}{2}$	5	$5\frac{1}{2}$	=	$18\frac{1}{2}$
	3.	2	5	4	5	=	16
	4.	$2\frac{1}{2}$	6	$5\frac{1}{2}$	7	=	21
Palpi		$2\frac{1}{2}$	4	4	1	=	$11\frac{1}{2}$

A single male in the British Museum, sent by Dr. Broom from Hill Grove, New South Wales. I have named the species after that industrious collector.

CHENISTONIA, nov. gen.

Differs from *Aname* L. Koch in that tibia i. of the male is furnished with a powerful single spur springing from an enlargement in the centre of the joint. The front row of eyes is slightly

procurred, the side-eyes being larger than the middle. The front and rear side-eyes are distinctly separated. The thoracic fovea is straight.

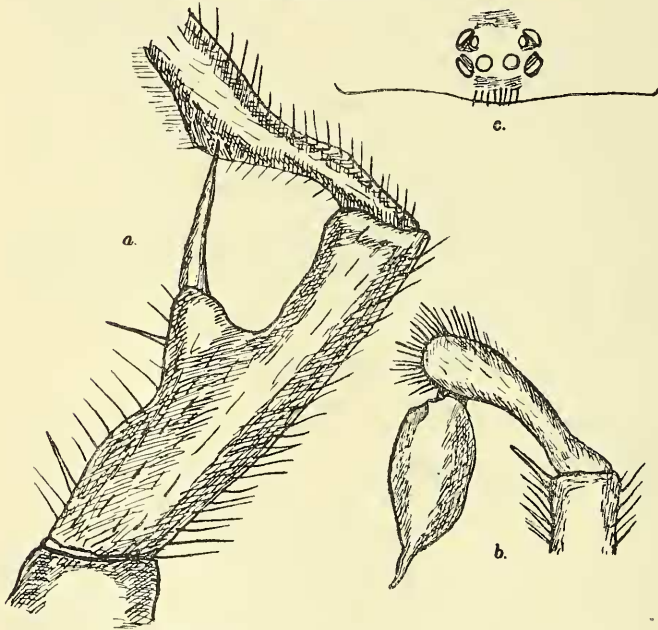
Type, *C. maculata*, n. sp.

CHENISTONIA MACULATA, n. sp. (Text-fig. 35.)

Cephalothorax and mandibles rich red-brown. Palpi and legs somewhat paler, with fine down-lying yellow hair and brown upstanding bristles. Coxæ, sternum, lip, and maxillæ deep orange, with upstanding brown bristly hair.

Abdomen, above, black ground with transverse rows of medium-sized yellow spots, rather thick short yellow hair; on the under-

Text-fig. 35.



Chenistonía maculata. a. Tibial and metatarsal joints of first pair of legs of male. b. End of palp. c. Eyes.

side, a yellow chitinous shield in front, behind it black and yellow mottlings with brown hair. Spinnerets yellowish with yellow hair.

The cephalothorax is oblong, only slightly narrower in front and rear; thoracic fovea straight; cephalic part not much higher than the thoracic.

Front row of eyes slightly procurved, median pair their diameter apart; laterals $1\frac{1}{2}$ diameter of former, $\frac{1}{2}$ diameter distant. Rear

row recurved, laterals, the diameters of, or very slightly longer than front middle, rear middle nearly as large. Front and rear laterals clearly separated.

Sternum nearly round, convex, furnished with upstanding bristles; sigillæ rather round, marginal, and moderate in size.

Lip small, only slightly broader than long, hollowed in front; no spines. Maxillæ straight in front, round at heel, thence hollowed round lip, the whole base covered with thick club-shaped spines.

The falx-sheath has 8 large teeth on the inner side and 5 small intermediate at the lower end.

The male has a powerful lateral spur springing from an enlargement in the middle of tibia i., but none at the apex.

The genital bulb is a long pear-shape, with a short stylus not more than one-fourth of its length. The bulb springs from the end of a specially long metatarsal joint of the palp.

Measurements in millimetres.

Female.

	Long.	Broad.				
Cephalothorax	6	$4\frac{1}{2}$				
Abdomen	7	4				
Superior spinnerets	$1\frac{1}{2}$, 1, $1\frac{1}{4}$	$= 3\frac{3}{4}$.				
	Coxa.	Tr. & fem.	Pat. & tib.	Metat. & tars.		
Legs 1.	$2\frac{1}{4}$	$4\frac{1}{2}$	5	4	=	$15\frac{3}{4}$
	2.	4	4	$3\frac{1}{2}$	=	$13\frac{1}{2}$
	3.	$1\frac{3}{4}$	$3\frac{1}{2}$	$3\frac{1}{2}$	=	$12\frac{1}{4}$
	4.	$2\frac{1}{4}$	5	5	=	$16\frac{3}{4}$
Palpi	$1\frac{3}{4}$	$3\frac{1}{2}$	$3\frac{1}{2}$	$1\frac{3}{4}$	=	$10\frac{1}{2}$

Male.

	Long.	Broad.				
Cephalothorax	6	$4\frac{1}{2}$				
Abdomen	6	$3\frac{1}{2}$				
Superior spinnerets	$1\frac{1}{2}$, 1, $1\frac{1}{2}$	$= 4$.				
	Coxa.	Tr. & fem.	Pat. & tib.	Metat. & tars.		
Legs 1.	$2\frac{1}{2}$	$5\frac{1}{2}$	$6\frac{1}{2}$	$5\frac{1}{2}$	=	20
	2.	$2\frac{1}{4}$	5	5	=	$16\frac{1}{2}$
	3.	2	$4\frac{1}{2}$	5	=	$15\frac{3}{4}$
	4.	$2\frac{1}{2}$	$5\frac{3}{4}$	$6\frac{3}{4}$	=	$20\frac{1}{2}$
Palpi	2	$4\frac{1}{2}$	$4\frac{1}{2}$	$1\frac{1}{2}$	=	$12\frac{1}{2}$

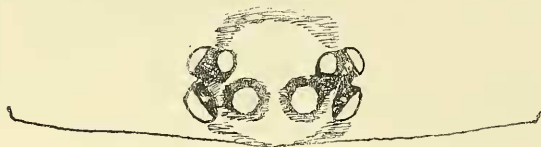
Locality. Macedon, Victoria.

CHENISTONIA MAJOR, n. sp. (Text-fig. 36.)

Besides its much larger size, though similar in colouring, this differs from *C. maculata* in the pattern of the upper part of the abdomen having a black median stripe with about 5 pairs of mottly diagonal side stripes on a buff ground; underneath all yellow.

The front middle eyes are nearer together, $\frac{3}{4}$ diameter apart, and the front side only slightly larger, about $1\frac{1}{4}$ diameter. The rear side are the same diameter as the front middle, the rear middle broad and truncate at the top.

Text-fig. 36.

*Chenistonina major.* Eyes

The mandibles are much more heavily clothed with hair and bristles.

The superior maxillæ are shorter in comparison, stout and tapering and darker in colour.

Also tarsi are scopulated and a portion of metatarsi i. & ii.

Lip rather round, with 3 or 4 spines in one row in front.

Measurements in millimetres.

	Long.	Broad.			
Cephalothorax	11	8			
Abdomen	14	10			
Mandibles	$4\frac{1}{2}$				
Superior spinnerets 2, 1 $\frac{1}{2}$, 2 = 5 $\frac{1}{2}$.					
	Coxa.	Tr. & fem.	Pat. & tib.	Metat. & tars.	
Legs 1.	5	9	9	8	= 31
2.	4	$8\frac{1}{2}$	$8\frac{1}{2}$	8	= 29
3.	$3\frac{1}{2}$	7	7	$7\frac{1}{2}$	= 25
4.	4	$9\frac{1}{2}$	$9\frac{1}{2}$	$9\frac{1}{2}$	= $32\frac{1}{2}$
Palpi	4	$6\frac{1}{2}$	6	3	= $19\frac{1}{2}$

Among a good many females I have not found a male.

Another female :—

	Long.	Broad.			
Cephalothorax	11	9			
Abdomen	17	11			
Superior spinnerets $2\frac{1}{4}$, $1\frac{1}{4}$, $1\frac{3}{4}$ = $5\frac{1}{4}$.			Sternum $5\frac{1}{2} \times 4$.		
	Coxa.	Tr. & fem.	Pat. & tib.	Metat. & tars.	
Legs 1.	5	10	10	9	= 34
2.	$4\frac{1}{2}$	9	10	$8\frac{1}{2}$	= 32
3.	4	8	8	9	= 29
4.	$4\frac{1}{2}$	$9\frac{1}{2}$	$10\frac{1}{2}$	$10\frac{1}{2}$	= 35
Palpi	4	7	7	4	= 22

Locality. Upper Macedon, Victoria.

Group MACROTHELEÆ.

This group is very clearly distinguished from the foregoing by the greater length of the superior mammillæ, which are not much, if any, shorter than the cephalothorax, by the distance between the inferior mammillæ, which are some four diameters at least apart; the tarsi and metatarsi of all the legs being without scopulæ, and the tarsal claws having the pectinations in a single row only, crossing the claw diagonally from one side to the other. They resemble one another in the sternal sigillæ, which are of moderate size and marginal, and in having the teeth on the falx-sheath in one row only on the inner side, or one row and a small intermediate at the lower end.

The genera may be distinguished as follows:—

- | | |
|---|-------------------------------|
| 1. Mandibles protruding horizontally and normal... | 2. |
| Mandibles short, strongly kneed at base and nearly perpendicular (as in <i>Migas</i> L. Koch, <i>sec. Thor.</i>)..... | <i>Cethegus</i> Thor. |
| 2. Front row of eyes procurved. Lip smooth or only bespined at apex; all tarsi generally bespined; all legs the same thickness; last joint of spinnerets not longer than the middle, but finer, smooth and straight | <i>Stenygrocercus</i> E. Sim. |
| Front row of eyes straight or lightly procurved. Lip profusely bespined nearly to base; last joint of spinnerets as long as, or longer than second | 3. |
| 3. No spines on tarsi. Front pair of legs stouter than others | <i>Porrhothele</i> Sim. |
| All tarsi bespined. First and fourth pairs of legs the same thickness | <i>Macrothele</i> Auss. |

Genus CETHEGUS Thorell.

Cethegus Thorell, Ann. Mus. Genova, 1881, p. 241.

This genus, formed for a specimen brought from Cape York by d'Albertis, I only connect provisionally with this group. It is unknown to me; and although (*sec. Thor.*) it has very long spinnerets, the form of the mandibles would seem to make it doubtful whether it should not rather be joined to the *Miginae*.

CETHEGUS LUGUBRIS Thor., *loc. cit.*

Genus PORRHOTHELE Simon.

Mygale Walck. Ins. Apt. vol. i. 1837 (ad part. *antipodiana*).

Cteniza White, Proc. Zool. Soc. 1849, p. 3 (ad part. *hexops* and *antipodum*).

Hexops Auss. 1871 (ad part. *whitei*).

Macrothele Camb. 1873 (ad part. *huttoni*).

Macrothele Simon, Ann. Soc. Ent. Fr. 1891, p. 307 (ad part. *insignipes*).

Porrhothele Simon, Hist. Nat. d. Araign. vol. i. (1892) p. 185.

Type, *P. antipodiana* Walck.

This is evidently the New Zealand form of the genus *Macrothele* Auss.; but the only real difference between the two is that, whereas in the latter (*sec.* Auss.) the tarsi are all bespined, in the corresponding species of New Zealand they are without spines and the front pair of legs is somewhat stouter than the others.

M. Simon makes the lip in *Macrothele* only bespined at the apex, but in comparing the type species *M. calpetana* Walck. with the New Zealand specimens, I find no difference in this respect, the lip of both being profusely bespined to nearly the base. The front row of eyes in *Porrhothele* is straight or slightly procurved according to the point of view.

M. Simon says (*loc. cit.* & Ann. Soc. Ent. Fr. 1891, p. 307) that in *P. antipodiana* the eyes of the front row are slightly recurved. He has seen the type specimen, while I have not; but I would point out that Baron Walckenaer, though he is not quite clear in his original description, rather suggests the contrary¹, that no specimen has been since described with the row in question recurved, and the type specimen, I think a dried one, is between 60 and 70 years old, under which circumstances examination is difficult and likely to be deceptive through shrinkage.

Amongst some Spiders sent me by Prof. Dendy from Canterbury, N.Z., unfortunately all females, there are two distinguishable species of this genus, and I have little doubt that this includes all therefrom. It has not so far been met with on the mainland of Australia, but Mr. Urquhart has described a species from Tasmania (*M. aculeata*, Proc. R. Soc. Tasm. 1893, p. 94), so it is not unlikely that it may be found somewhere on the mainland.

I distinguish the species as follows:—

Front middle eyes not quite their diameter apart; thoracic fovea deep and round. Cephalothorax bright orange or light red, with dark median stripe from eyes to fovea; mandibles black-brown	<i>P. antipodiana</i> Walck.
Front middle eyes their full diameter apart (at least in female); thoracic fovea long and transversely straight. Cephalothorax and mandibles rich chocolate-brown	<i>P. simoni</i> , n. sp.

PORRHOTHELE ANTIPODIANA Walck.

Mygale antipodiana Walck. Hist. Nat. des Ins. Apt. vol. i. (1837) p. 230.

Mygale quoyi Lucas, in d'Orbigny, Dict. d'Hist. nat. vol. viii. p. 503.

Oteniza hexops White, Proc. Zool. Soc. 1849, p. 3.

¹ "Les yeux intermédiaires antérieurs . . . sont sur la même ligne que les latéraux extérieurs."

Cteniza antipodum White, Proc. Zool. Soc. 1849, p. 3.

Hexops whitei Auss. Verh. zool.-bot. Ges. Wien, 1871, p. 155.

Macrothele huttonii Cambr. Trans. & Proc. N. Z. Inst. vol. vi. (1873) p. 200.

Macrothele huttonii Cambr., A. T. Urquhart, *ibid.* vol. xxiv. (1891) p. 221.

Macrothele insignipes Simon, Ann. Soc. Ent. Fr. 1891, p. 308.

Macrothele (or *Hexops*) Auss., R. I. Pocock, Ann. & Mag. Nat. Hist. ser. 6, vol. xvi. (1895) p. 224.

Porrhothele antipodiana Walck., E. Simon, Hist. Nat. d. Araign. vol. i. (1892) p. 185.

This species was originally described by Baron Walckenaer in 1837, from a specimen collected in New Zealand and brought to Paris by Messrs. Quoy & Gaimard. It would appear to be fairly common in New Zealand, and has certainly been the subject of several descriptions since, but some so vaguely drawn as to leave the characteristics of their types a matter of considerable doubt.

The 'Erebus' and 'Terror' Expedition brought home several specimens in 1847, in various stages of growth, from which Mr. Adam White described two species under the names of *Cteniza antipodum* and *Cteniza hexops* respectively.

Fortunately the types of these (two each) are preserved in the British Museum, and Mr. Pocock (*loc. cit.*) has shown that they are both the same. They are certainly also the same as two larger specimens of mine (from Canterbury as aforesaid, p. 266).

Baron Walckenaer's original description of his type specimen of *antipodiana* further agrees with these. (One of the names chosen by Mr. White rather suggests that he had himself a suspicion that he might be dealing with this species.)

M. Simon says that his *Macrothele insignipes* differs from *M. antipodiana*, but the only difference he quotes is the difference in size, which goes for very little in the females; and also he says that the front row of eyes of *antipodiana* is recurved, which I think, from reasons given above, must be taken as doubtful. His very careful description applies word for word to my specimens.

Mr. Cambridge's description of his *P. huttoni* has no points which disagree with these or by which a different species can be established.

I therefore conclude that, at least until some difference is shown between the males, the whole of these species with pale red or orange cephalothorax are really the same, and, moreover, the same as Walckenaer's type-specimen of *antipodiana*.

The unusually bright colour of the cephalothorax, with darker area about the eye-space, dark line from eye-space to the thoracic fovea, which is deep and round; front middle eyes as large as side-eyes and less than their diameter apart; black-brown mandibles; black or dark abdomen, with large round bronchial opercula yellow at

the margins and brown inside, are features common to all the descriptions. The measurements of the largest specimen I have are as follows (in millimetres):—

		Long.	Broad.			
Cephalothorax		12	10			
Abdomen		13½	11			
Superior spinnerets		10½				
				Pat. &	Metat.	
		Coxa.	Tr. & fem.	tib.	& tars.	
Legs	1.	5	9½	9	7½	= 31
	2.	5	9½	9	7½	= 31
	3.	4	8½	8½	8	= 29
	4.	4½	9½	9	9½	= 32½
Palpi		4½	6½	5	4	= 20

The superior tarsal claws have about 7 pectinations (in one row crossing the claw).

Tibia iv. above has 1 pair of spines in front, 2 pairs in middle close together, and 1 spine on outer side between.

Metatarsus i. has 1 pair of spines in front and 1 spine in middle of underside.

On the inner margin of the falx-sheath are about 11 irregularly sized teeth, with 8 smaller in a row at the lower end intermediate between the two edges.

As is well known, Mr. White, after his description of *Oteniza hewops*, mentions (casually in a postscript) that it has only six eyes, on which statement Herr Ausserer constituted a new genus. Hence arose the discussion (Pocock, *loc. cit.*) as to whether, on the discovery that the supposed type specimen had eight eyes, the generic name *Hewops* Auss. should or should not stand in place of the later named genera.

The eyes of this species are so particularly large and distinct, that it is difficult to believe that anyone looking at it sufficiently closely to describe a new species could possibly have made such a mistake as that attributed to Mr. White.

I happen to have a specimen (of *P. simoni*, n. sp.) with one side-eye missing from the front row, without the faintest mark of its ever having been there, and have had similar experience in other genera. Now if Mr. White's specimen had similarly lost two corresponding eyes, he may well have made the observation he did; and afterwards substituted for the type duplicate specimens, instead of the one he had pulled about and perhaps broken. In that case the type specimen of Ausserer's genus would simply have been unwittingly destroyed, and when a similar one reappears the genus, out of respect to its founder, can come back into our lists. Apart from this there must surely be an implied authority to rectify any obvious mistake, as when a name intended to be descriptive through an error (or carelessness) becomes misdescriptive.

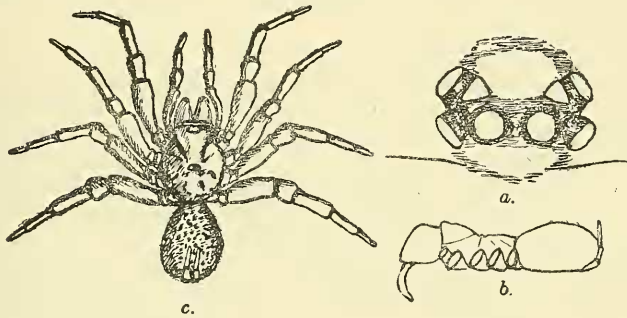
PORRHOTHELE SIMONI, n. sp. (Text-fig. 37.)

Mandibles black. Cephalothorax and sternum rich shining dark brown. Coxæ, lip, and maxillæ rather lighter brown. Legs and palpi medium reddish brown, with brown hairs, bristles, and spines. Abdomen dull black-brown, with small yellow spots here and there and rather rough corrugations; hair yellow-brown. Gill-covers brown, edged with yellow. Spinnerets dark brown. The cephalic part is only moderately raised; fovea deep and straight or slightly procurved.

The front row of eyes is slightly procurved, the median pair their diameter apart. Laterals scarcely, if any, larger, and half that distance away. The rear row is recurved, the laterals the same size as the front and three-quarters of the diameter away. The rear median are two-thirds the diameter of the others, rather square, half as far from the rear side as the front middle.

The falx-sheath has 10 large and 2 small (1st and 6th) teeth on its inner margin, with a median row of 8 small teeth at the lower end.

Text-fig. 37.



Porrhothele simoni. a. Eyes. b. Profile.

The sternum is a broad oval, flat, with thin upstanding brown hair. The sternal sigillæ are moderately large and quite marginal.

The lip is rather square, straight in front, and very convex. It is profusely covered with club-shaped spines from front nearly to base. The maxillæ are broad, with a protuberant inner front corner, a thick group of club-shaped spines reaches to two-thirds the length.

The superior tarsal claws are large, with one row of 11 pectinations, longest in the middle, running diagonally across the claws. The inferior tarsal claw is smooth. The female palp-claw has six pectinations. The inferior spinnerets are long, and about four of their diameters apart. The superior pair have the first and third joints equal and longer than the second.

The abdomen is oval, high, and rounded at the sides.

Measurements in millimetres.

	Long.	Broad.			
Cephalothorax	11½	7 in front.			
		10 in middle.			
Abdomen	14	11			
Sternum	5	4¼			
Superior spinnerets	3¼, 2¼, 3¼ = 8¾.				
			Pat. &	Metat.	
	Coxa.	Tr. & fem.	tib.	& tars.	
Legs	1.	5	9	8	= 31
	2.	5	9	8	= 31
	3.	4	8	9	= 29
	4.	4	9½	10	= 33½
Palpi	4	6½	5½	3½	= 19½

Two females from Christchurch, N.Z.

Genus *STENYGROCERCUS* E. Simon.

Macrothele E. Simon, Ann. Soc. Ent. Fr. 1888, p. 245 (ad part. *silvicola*).

Stenygrocerus E. Simon, Hist. Nat. des Araign. vol. i. (1892) p. 185.

Type, *S. silvicola* Simon.

M. Simon has constituted the genus *Stenygrocerus*, with a New Caledonian species as type, in which the lip is rather square, both that and the maxillæ free from spines. The superior mammillæ have the first and second joints of about equal length, the last joint being not longer than middle, and the whole slim, the first two joints about four times as long as wide. In many cases, if not always, the second joint of the superior mammillæ all through this family is certainly retractile, and its comparative length therefore difficult to establish unless fully extended. Apart from this, however, the great difference between the unbespined lip and maxillæ in this genus, and the profuse bespining of both in the two genera *Macrothele* and *Porrhothele*, is a good generic characteristic. There is no obvious thickening of the first pair of legs as in *Porrhothele*.

The front middle eyes are much smaller than the side, thus greatly differing from those of *Porrhothele*.

STENYGROCERCUS *BROOMI*, n. sp. (Text-fig. 38, p. 271.)

Cephalothorax, mandibles, sternum, and coxæ deep chocolate-brown; eye-space and mandibular fangs black. Legs and palpi, lip and maxillæ rather lighter, edges of the latter paler and ruddier. Front median eyes greenish, remainder bright yellow. Hairs on cephalothorax yellowish, on legs, palpi, and sternum dark brown. Abdomen dark grey ground, with small paler yellow-brown pit-marks over the upper surface.

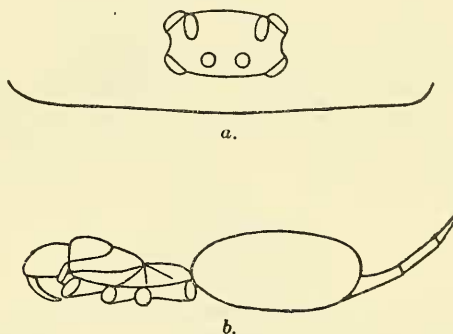
The cephalothorax is 1½ mm. longer than broad, only slightly narrowing in front and rear. A deep round fovea and four well-marked depressions on either side.

The raised eye-space twice as long as broad and half its breadth from the edge of the carapace. The front row of eyes is procurved. Laterals $2\frac{1}{2}$ times the diameter of the median, the latter one diameter apart, and the same distance from the lowest point of the side-eyes. The side-eyes of rear row are smaller than front laterals, $\frac{1}{2}$ their diameter away. Rear median $1\frac{1}{2}$ diameter of front median, their apex is close up to the side-eyes.

The mandibles set rather divergently, are the length of the front patellæ, and are furnished with long stout bristles on the lower half. Falx-teeth about 8 of irregular size on inner margin, with a few small in an intermediate row at lower end of falx-sheath.

The sternum, a broad oval, and the coxæ are covered with long stout upstanding bristles each springing from a raised round radical. The anterior sigillæ are very large and situated in a broad shallow

Text-fig. 38.

*Stenygrocerus broomi*. a. Eyes. b. Profile.

depression behind the lip, which is widest at base, slightly wider than long and narrowing to a straight front edge. This is altogether without spines, as are also the maxillæ, which are square with a small rounded protuberance at front inner corner.

The metatarsi and tarsi are all bespined, the latter rather weakly; two small pairs underneath only on the front two pairs. 6 or 7 pectinations in a single row cross the superior tarsal claws. 5 or 6 short teeth on the female palp-claw.

The abdomen is oval, rounded at the sides. It has a little light-coloured down-lying hair and long spinous bristles with bases.

The anterior mammillæ are well developed, more than four times their width apart. The superior pair are about as long as the cephalothorax, the last joint tapering, the others cylindrical.

Two females were sent to the British Museum by Dr. Broom from Hill Grove, N.S.W.

Measurements in millimetres.

		Long.	Broad.					
Cephalothorax	....	8½	7					
Abdomen	.....	11	8					
Mandibles	.....	3						
Superior mammillæ	4, 3, 2½ = 9½.							
		Coxæ.	Tr. & fem.	Pat. & tib.	Metat. & tars.			
Legs	..... 1.	3½	6½	6½	6 =		22½	
	..... 2.	3½	6½	6½	6 =		22½	
	..... 3.	3½	6½	6½	7½ =		24	
Or 4, 3, 2, 1.	..... 4.	3½	7½	8½	9½ =		29	
Palpi	.....	3	5½	5½	3 =		17	

Group ATRACEÆ.

The two genera *Atrax* Cambr. and *Hadronyche* L. Koch, which I have detached to this group, differ considerably from either of the two previous genera.

The sternal sigillæ are large and removed from the margin, and the teeth on the falx-sheath are in two rows on interior and exterior margins, with an intermediate row of small ones at the lower end.

The superior spinnerets are short and the inferior even closer together than in *Brachythèle*; while the tarsal claws are pectinated in one row across the claw as in *Macrothèle*, and the lip very thickly bespined.

Synopsis of Genera.

Last joint of superior spinnerets longer than second, cylindrical and smooth	<i>Atrax</i> Cambr.
Last joint of superior spinnerets short and conical.....	<i>Hadronyche</i> L. Koch.

Genus ATRAX Cambr.

Atrax Rev. O. P. Cambridge, Ann. & Mag. Nat. Hist. ser. 4, vol. xix. (1877) p. 26; E. Simon, Ann. Soc. Ent. Fr. 1891, p. 302; id. Hist. Nat. d. Araign. vol. i. (1892) p. 186.

Type, *A. robustus* Cambr.

Synopsis of Species.

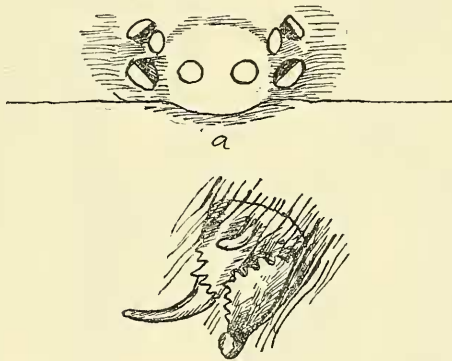
Front middle eyes more than their diameter apart, and distinctly less in their diameter than side-eyes of same row; patellæ of two rear pairs furnished with one or two spines; all four pairs of tibiæ bespined...	<i>A. robustus</i> Cambr.
Front middle eyes less than their diameter apart, and about the same in diameter as the front side-eyes; patellæ of third pair furnished with numerous spines, fourth pair none; and the front four tibiæ without any.....	<i>A. modesta</i> Simon.

ATRAX ROBUSTUS Cambr. (Text-fig. 39.)

Atrax robustus Cambr. Ann. & Mag. Nat. Hist. ser. 4, vol. xix. 1877, p. 26, pl. vi. fig. 1; E. Simon, Ann. Soc. Ent. Fr. vol. lx. 1891, p. 301.

This rather powerful-looking spider varies in the colour of the cephalothorax, from a rich red-brown to a black-brown. Abdomen yellowish grey, to darker grey, with fine dark brown hairs. The front middle eyes stand on raised shiny black rims which make them look larger and nearer together than they really are, and these again are raised on a common protuberance outside of which lie the side-eyes and rear middle. The front row only looks in any way pro-curved when seen from right in front.

Text-fig. 39.



Atrax robustus. a. Eyes. b. Tarsal claws.

There are seven pectinations in a curved row across the superior tarsal claws, the inferior tarsal claw being smooth.

There are 13 large teeth on the outer margin of the falx-sheath, 11 on the inner, and 9 rather large in an intermediate row.

The metatarsi and tarsi of all legs are thickly bristled and bespined, but have no real scopula. There are three or four short spines at anterior end of tibia i. and ii., and the same with more, in the middle of tibia iii. and iv.

There are female specimens from Queensland and New South Wales in the British Museum, and from New South Wales in that of Paris, but no male recorded.

I give the following measurements in millimetres of about the largest.

	Long.	Broad.
Cephalothorax . .	15	12
Abdomen	12½	11
Superior spinnerets	2½, 1, 2½ = 6.	

		Coxa.	Tr. & fem.	Pat. & tib.	Metat. & tars.	
Legs	1.	7	12	12½	11	= 42½
	2.	6	11	11½	10	= 38½
	3.	5	10	10	10	= 35
	4.	6	12	11½	11½	= 41
Palpi		6	9	8	5	= 28

ATRAX MODESTA Simon.

Atrax modesta E. Simon, Ann. Soc. Ent. France, vol. lx. 1891, p. 302.

Described by M. Simon from a female in the Paris Museum from Melbourne. I have not seen it, but it is apparently smaller and darker in colour. I have given (above, p. 272) the differences deduced from M. Simon's description.

Genus *HADRONYCHE* L. Koch.

Hadronyche L. Koch, Die Arachn. Austr. 1873, p. 463; E. Simon, Hist. Nat. d. Araign. i. 1892, p. 186.

This genus differs from *Atrax* in having the pars cephalica of the cephalothorax more raised up and rounder, but not so much so as in *Eriodon*. The superior mammillæ are short and tapering; the first joint, divided at the back but not all round, is equal in length to the remaining two, the second being slightly longer than the third. The inferior mammillæ are near together, cylindrical, and truncate at end. The lip is square in front but not nearly so long as broad, unless the whole distance from the sternum is included.

Type, *H. cerberæ* L. Koch.

HADRONYCHE CERBEREA L. Koch. (Text-fig. 40, p. 275.)

Hadronyche cerberæ L. Koch, *loc. cit.*

Herr Koch's description is from two female specimens from Sydney, for which he gives measurements:—Ceph. 11 mm. long; abd. 14; legs (without coxæ) 26, 24, 22, 27½ mm. respectively.

I have a fully developed male from Macedon, Victoria, a good deal smaller, but in which I can distinguish no specific difference from his description. Still of course the question is doubtful.

Male. Cephalothorax chocolate-brown, with paler marginal edging. Abdomen yellowish grey.

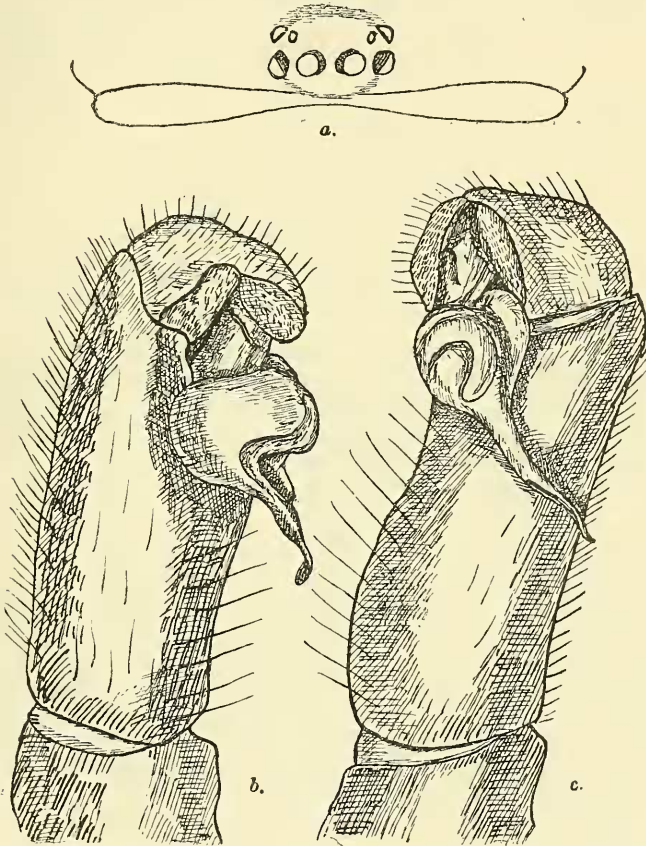
Front row of eyes straight and equal in size; middle their diameter apart, half that distance from nearest point of side-eyes; rear side-eyes smaller than front and rear median rather close up to them, smaller still.

Lip broader than long, straight in front, round at sides and rear, much bespined. The maxillæ have a short rounded projection at

upper inner corner. There are 11 teeth on outer edge of falx-sheath, 9 larger on inner, and 5 or 6 very small in intermediate row at lower end.

The superior tarsal claws have one row of pectinations with about 6 teeth apparently crossing the claw. The lower claw

Text-fig. 40.



Hadronyche cerberca. a. Eyes. b. Right, and c. left male palp.

smooth. There are two rows of stout spines on metatarsus i. and ii. Scopulae and numerous spines on all four pairs of tarsi. Thoracic fovea deep and procurved.

The stigma of the male palp is about as long as the bulb, the apex is somewhat flattened but not dilated; the bulb is divided by a deep long fovea underneath, but round and undivided above; metatarsal joint short.

Measurements in millimetres.

	Long.	Broad.
Cephalothorax	6½	5
Abdomen ..	6	4

Superior spinnerets 2 mm.

		Coxa.	Tr. & fem.	Pat. & tib.	Metat. & tars.		
Legs	1.	2 $\frac{3}{4}$	6	6	6	=	20 $\frac{3}{4}$
	2.	2 $\frac{1}{4}$	5½	5½	5½	=	18 $\frac{3}{4}$
	3.	2 $\frac{3}{4}$	5	5	5	=	17 $\frac{1}{4}$
	4.	2 $\frac{1}{4}$	6½	6½	7	=	22 $\frac{1}{4}$
Palpi		2	3	3	1	=	9

Group HEXATHELEÆ.

Genus HEXATHELE Auss.

Hexathele Ausserer, Verh. zool.-bot. Ges. Wien, 1871, p. 171; L. Koch, Arachn. Austr. 1873, p. 459; E. Simon, Hist. Nat. d. Araign. i. 1892, p. 188.

The genus (*sec.* Auss.) hardly differs from *Macrothele* except in the addition of two small spinnerets to the usual group of four, but with no scopulæ on tarsal joint or spines on front two pairs. The known species, of which two only have been described, are confined to N. Zealand.

Type, *H. hochstetteri* Auss.

HEXATHELE HOCHSTETTERI Auss. (Text-fig. 41, p. 277.)

Hexathele hochstetteri Auss. *loc. cit.* p. 172; L. Koch, *loc. cit.*

Since the above was written, two specimens, a male and a female, have fortunately arrived at the British Museum. They were collected from Pahiatua, Wellington, N.Z., and forwarded by Capt. Hutton. They are larger than the specimens previously described by Ausserer and L. Koch, in both cases females, but fairly well conform to the descriptions of *H. hochstetteri* Auss. I am therefore able to give the following particulars of this previously imperfectly known species.

Cephalothorax and legs bright reddish brown; mandibles dark red-brown.

Abdomen dark grey-brown above, dark but rather yellower below, no pattern distinguishable.

Front middle eyes half their diameter apart. Front and rear side-eyes of equal size, their long diameter 1½ of front middle and ½ of same apart. The long diameter of the rear middle eyes equal to that of the front middle.

Thoracic fovea straight and deep.

Sternum ovate, broadest posteriorly; sigillæ moderate in size and nearly marginal.

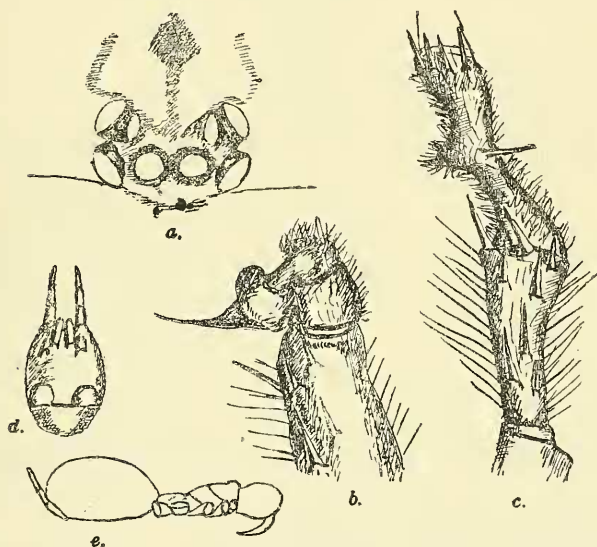
Numerous rather large club-shaped spines on both lip and maxillæ. The latter has a rounded prominence at the inner fore corner and a pronounced heel at the lower outer.

On the inner margin of falx-sheath is a row of about 15 teeth, and a thick fringe of orange-coloured hair on the outer.

The first and third joints of the superior spinnerets are equal and longer than the second; the last cylindrical, the others tapering. The second pair are about three diameters apart, and the small third pair below and outside these.

The tarsi of the female are all without scopulæ.

Text-fig. 41.



Hexathele hochstetteri. a. Eyes. b. Male palp. c. Tibia and metatarsus of male. d. Underside of abdomen. e. Profile.

The front two pairs of tarsi in the male have a divided scopula but without setæ, and a small pair of spines near the anterior end; only the posterior two pairs have a double row of setæ in the division of the scopula and a row of spines on each side.

One row of about 8 pectinations crosses the superior tarsal claws. The inferior claw is bare.

The palpal stigma of the male is about twice the length of the bulb, the first half flattened but tapering into a very fine point.

Measurements in millimetres.

Female.

	Long.	Broad.
Cephalothorax	10 $\frac{1}{2}$	9
Abdomen ..	14	11

Superior spinnerets 3, 2, 3=8.

		Coxa.	Tr. & fem.	Pat. & tib.	Metat. & tars.		
Legs	1.	5	9	8 $\frac{1}{2}$	8 $\frac{1}{2}$	=	31
	2.	4 $\frac{1}{2}$	8 $\frac{1}{2}$	8	8	=	29
	3.	4 $\frac{1}{2}$	7	7	8	=	26 $\frac{1}{2}$
	4.	4 $\frac{1}{2}$	9	9	10	=	32 $\frac{1}{2}$
Palpi		4 $\frac{1}{2}$	6	6	4	=	20 $\frac{1}{2}$

Male.

	Long.	Broad.
Cephalothorax	10 $\frac{1}{2}$	9
Abdomen ..	11 $\frac{1}{2}$	7 $\frac{1}{2}$

Spinnerets 1st pair 3, 2, 3=8; 2nd pair 2; 3rd pair 1.
Distance apart ,, 3; ,, 2; ,, 4.

		Coxa.	Tr. & fem.	Pat. & tib.	Metat. & tars.		
Legs	1.	5	9 $\frac{1}{2}$	9 $\frac{1}{2}$	9 $\frac{1}{2}$	=	33 $\frac{1}{2}$
	2.	4	9	9	9 $\frac{1}{2}$	=	31 $\frac{1}{2}$
	3.	4	8 $\frac{1}{2}$	8 $\frac{1}{2}$	11	=	32
	4.	4	9 $\frac{1}{2}$	9 $\frac{1}{2}$	12	=	35
Palpi		4	7	7	2	=	20

HEXATHELE PETREII Goyen.

H. petreii P. Goyen, Proc. N. Z. Inst. vol. xix. (1886) p. 207.

H. petreii, A. T. Urquhart, ibid. vol. xxiv. (1891) p. 221.

Female found by and named after D. Petrie, Esq.; locality Otago.
Total length 20 mm. (see Goyen).

Abdomen (overhanging ceph.) 12 mm. long.

Mr. Goyen makes no mention of how his species differs from the type species. Except a discrepancy in the eyes I can find no difference in the descriptions of these two species.

Ausserer says of the genus, "eyes as in *Nemesia*," i.e. front row procurved, rear row recurved. Lateral eyes oval.

Mr. Goyen says, "anterior row bent backward and the posterior forward." If this is meant in the German sense, his description tallies with *H. hochstetteri*; if he means recurved and procurved respectively, it must be something very different from the genus *Hexathele* of Dr. Ausserer.

Note.—In a former paper (Proceedings Royal Society of Victoria, August 1900), I gave the name *Hyllobius* to a new genus of the family Dictynidae. I now find that it has been previously applied

to a genus of Coleoptera. I therefore change it to *Taurongia*, after the locality where the type specimens described were obtained.

In conclusion, I cannot too gratefully express my thanks to Mr. R. I. Pocock, of the British Museum Natural History Department, for kindly advice and ready assistance always at my service, and in allowing me access to the Collections under his charge; without which it would have been impossible for me to have investigated many points of interest and doubt, some of which I trust I have been able to make clear.

June 18, 1901.

Prof. G. B. HOWES, LL.D., F.R.S., V.P., in the Chair.

The Secretary read the following report on the additions to the Society's Menagerie during the month of May, 1901:—

The total number of registered additions to the Society's Menagerie during the month of May was 226, of which 23 were by presentation, 7 by birth, 16 by purchase, and 180 were received on deposit. The total number of departures during the same period, by death and removals, was 150.

Amongst the additions attention may be called to:—

1. Four hybrid Macaws bred at Milan, in Italy, between a male Red-and-Blue Macaw (*Ara macao*) and a female Military Macaw (*Ara militaris*). These birds have been deposited under our care by the Hon. W. Rothschild, M.P., F.Z.S. This is, so far as I know, the only instance on record of hybridism between two species of Macaw in captivity.

2. A young male African Elephant (*Elephas africanus*), purchased on May 21st. This animal was imported from Massowah, and is said to have been captured in the Italian colony of Eritrea. It is about four feet high, and is presumed to be about four years old.

3. A Guilding's Amazon (*Chrysotis guildingi*) from St. Vincent, presented by the Earl of Crawford, F.Z.S., on May 25th. This addition renders our series of the peculiar Amazons of the Lesser Antilles complete. We have now in the Parrot House specimens of four species of these Amazons, viz., *Chrysotis guildingi* from St. Vincent, *C. augusta* and *bouqueti* from Dominica, and *C. versicolor* from St. Lucia.

4. A young Red-flanked Duiker (*Cephalophus rufilatus*) from West Africa, presented by M. Th. Leportier on May 28th. We have received no specimen of this Antelope since 1880.

Two skulls and the skin of the new Mammal, the Okapi, discovered by Sir Harry Johnston, K.C.B., F.Z.S., which had been sent to the Natural History Museum, were exhibited, and the following remarks, by Prof. E. Ray Lankester, F.R.S., F.Z.S., were read:—